MEASURING FIT BETWEEN ACCOUNTING INFORMATION SYSTEM DESIGN, BUSINESS STRATEGY, ANI) ORGANIZATIONAL STRUCTURE CASE STUDY: MEDIUM AND LARGE MANUFACTURING COMPANIES IN WEST SUMATERA

THESIS

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ABSTRACT

This research focused on measuring fit between accounting information systems (AIS) design, business strategy, and organizational structure by implementing contingency theory. The research was conducted in 30 medium and large manufacturing companies located in West Sumatera. Based on AIS characteristics (scope, timeliness, aggregation, integration) provided by Chenhall and Morris, it proposed matching fit perspective by Venkatraman. The research found there is fit between certained AIS characteristics with organizational structure and business strategy, but there is no differentiation fit on using centralized or decentralized structure for low-cost and differentiation strategy company. Furthermore, it opens up possibilities for further research of fit between AIS, business strategy, and organizational structure for manufacturing companies in West Sumatera or even on global basis.

Key words: Accounting Information Systems, Business Strategy, Organizational Structure, Contingency Theory

Dedicated to Ibunda Liza Haryani...

The most super mom in the world...

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Yonadia Andriani

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CHAPTER I

INTRODUCTION

I.1 Background

Information technology is a set of tools which can help us to work with information and to do the tasks which is related to information processing (Haag & Keen, 1996). Information technology is always evolving according to the needs and circumstances of the time. IT development is involving the development in IT infrastructure, such as hardware, software, storage, and communication technology (Laudon and Laudon, 2006). This IT development gives influence in all aspects including business, health, education, government, etc.

The role of IT in business is as technology which is pointed on information system arrangement by using computer. IT can provide information for business requirements rapidly, timely, relevantly, and accurately (Wilkinson et. al, 1997). According to McFarlan et. al, (1983), application of IT for the company plays an important role and it can become the center of business strategy to gain competitive advantage.

IT gives an easy in providing information in a business. Information has to be available when it is needed, therefore company needs a system which can provide information whenever it is needed, which is called as information system. As we know, information system is a system that has function in providing information. The role of IT in information system is as a tool in developing that system. As well as Accounting Information System (AIS) in a company. IT is very useful in developing AIS in a company.

Accounting Information System (AIS) as one of information system in business which provides information in financial (e.g., net profit margin) and non-financial reporting (e.g., employee absenteeism rate) that are useful for managers in making decision (Maharsi, 2000; Boulianne, 2007). It can assists manager in identifying a problem, solving problem, and evaluating the performance, and also provide information for planning, controlling, evaluating, and continuously repairing. Organization invests in designing AIS for the fluency of business and to achieve higher performance, because AIS can help business to manage problems such as costing, expenditure and cash flow, by providing information to support monitoring and control (Ismail and King, 2005). It was designed with purpose to support the business mission, objective, and plans (Reich & Benbasat, 1996, 2000).

Additionally, Wilkinson et. al, (1997) has described business firms as system. They stated that a business firm exhibits several systems characteristics (objectives, environment, constraint, etc), and both the environment of the business firm and the firms characteristics contribute to the specific AIS designed to meet the needs of the firm. They also argued that environmental differences are very significant to the firm as their organizational structures and operations. Therefore there is a need to align the strategies and resource level to cope with these differences. And also, firm need to be responsive to changing conditions in highly competitive and dynamic industrial situations.

Organization implements strategy to achieve its missions, objectives, and plans. Strategy helps organizations in deciding what they will do and where is the

position in the industry. Organizations have to choose strategy that is appropriate with its operation environment. This strategy will help management to identify the information needed according to its strategy (Bandi, 2006), strategy will help in identifying the AIS characteristics that is needed. AIS was designed to support business activities in organization in implementing its strategy. Different strategy needs different AIS design. For example, when an organization implementing low cost strategy, they need to design AIS that will support this strategy. They need to design AIS that will monitor and control the activities in producing product with lower cost. Strategies in order to get competitive advantage need to be supported by appropriate organizational factors, including effective AIS (Ajibolade, et.al., 2010).

Besides that, organizational structure is also give effect in achieving an organization goal. We can define an organizational structure as the way to organize people and job so the activities can run well and organization can meet the goal. Robbins (2003) stated that an organization structure is a means to help management achieve its objective. Because objectives are derived from organization's strategy, therefore strategy and structure should be closely linked.

Furthermore, there is no strategy is universally superior, irrespective of the environmental or organizational context (Venkatraman, 1989). The strategy no longer great if there is no fit between strategy and organizational context (including structure and AIS). If an organization develop an AIS that is not appropriate with the strategy, so the result can not be maximized and wasting cost. It should be understood when implementing the AIS; it should be assessed for

compliance with business strategy. Inappropriate design and implementation of information systems has been very costly to firms in terms of time and money, suggesting the need for a careful examination of the fit between strategy and AIS design (Boulianne, 2007). Reich & Benbasat, (1996, 2000) argued that strategic alignment refers to the degree to which the IT mission, objective and plans support and are supported by the business mission, objective and plans.

When implementing IT in organization we also need an appropriate organizational structure to make use of IT efficiently (Peyman et. al, 2011), conversely we also need an appropriate IT in a certain organizational structure. We need to create structures that can process information quickly and correctly to get the feedback in order to achieve the organization objectives. For example, Robbins (2003) has defined centralization and decentralization as the type of organizational structure that lie on decision making authority. In centralized structure the decision making is concentrate at single point, while in decentralized structure more people can provide input in making decision. Both of these structures need different AIS design to provide information in order to make decision.

Thus, there is an important role of fit between business strategy, organizational structure, and AIS design in achieving organizational goal and best performance. Although an organization has excellent strategy, organizational structure, and AIS design, when there is no fit between them so it will be come useless. It is because the most important determinant of performance is the fit between its contextual variables (Jermias and Lindawati, 2004). That is why the

establishment of fit between contextual variables (including AIS, business strategy, and organizational structure) has been one of the key concerns of information system managers (Reich and Benbasat, 1996). Therefore, writer is interested in doing research of measuring the fit between strategy, organizational structure, and AIS design of manufacturing companies in West Sumatera. By doing this research, we hopefully can see how is the fit in different combination of AIS, business strategy, and organizational structure.

Actually there are previous researches that examine about the fit between AIS design, business strategy, and organizational structure in related to the performance. Those previous researches tried to explain how accounting systems affected by fit between contextual variables (Jermias and Lindawati, 2004). Abernethy and Guthrie (1994) had research that analyzes fit between strategy and management information systems design. They found that broad scope information has more positive function to performance for prospector firms rather than defender firms. Abernethy and Guthrie suggested that the finding of their research indicates that effectiveness of business unit is depends on fit between AIS design and strategy.

And then Gul and Chia (1994) found that decentralization as type of organizational structure and MAS information characteristics of broad scope and aggregation were associated with higher managerial performance under conditions of high PEU (Perceived Environmental Uncertainty). Naranjo-Gil, (2004) has conducted research that examined the fit between the prospector strategic-type of Miles and Snow (1978) with sophisticated AIS. The result of the research found

that sophisticated AIS are positively related to prospector strategy, while regarding the effect on performance sophisticated AIS affect performance indirectly, through a prospector strategy.

Those previous researches prove that there is a need for fit between AIS and contextual variables in organization. The fit between them will affect the performance of the organization. In other words, accountants need to adopt a wider vision in designing and implementing AIS (Otley, 1980).

In this research, we will use the theory of competitive advantage by Porter (1985). We use Porter typology because competitive advantage is the strategy that is based on market orientation. Organizations implement this strategy to determine their position in the market. It is very closely linked to manufacturing industry where the type strategy of the organization can be easily classified by using competitive advantage. This competitive advantage is a competitive strategy which provided by Porter to gain competitive advantage over competitors by offering greater value, by lower prices or by providing greater benefits and service that justifies higher prices. Porter distinguish the strategy by differentiate between Low Cost (Cost Leadership), Differentiation, and Focus.

We also use centralized and decentralized structures in analyzing the organizational structure. As stated by Fontaine (2007),

> "Organizational structure is crucial component of the overall business strategy, just as important as planning, leading, and controlling an organization" (Fontaine, 2007, p. 3).

Fontaine also stated that organizational structure will help in answering the

questions "who does what", "who reports to whom", and "how to coordinate the people and duties". By differentiate the organizational structure into centralized and decentralized we can see where the decision making and the authority within organization. As discussed before, centralization is type of organizational structure where the authority lies on single point, while decentralization is the type of organizational structure where the authorities are divided into sub units. Different type of authority of decision making cause different needs of information as it depends on the strategy. Soobaroeyen and Poorundersing (2008) stated that responsibilities have to be appropriate with "information flows and facilities to ensure appropriate management action and decision making" (p. 18). In other words, the differentiation of responsibilities point in centralization and decentralization need different information.

And then, we do the study at manufacturing companies in West Sumatera. As we know, manufacturing company is the company which performs its business activities in converting raw material into finished goods. In general, manufacture is a complex activity which involved raw material and product designing, purchasing, marketing, machinery and equipment, manufacturing, sales, process designing, production control, support service and customer service. Manufacturing companies are closely linked to Porter strategy where the process and how they operate is based on the type of strategy. Low-cost strategy operates differently with differentiation. Moreover, manufacturing companies can easily differentiate by using Porter's strategy because it is focus on market orientation.

In manufacturing companies, they use AIS which provide information of

all manufacturing activities. This information came from the data of manufacturing operations and other data related manufacturing and its environment. It is used to support management in solving problem related to company's product. AIS is used to support overall activities which is related to planning and controlling process of producing product. In other words, AIS in manufacturing companies process data become useful information for management that will help in making decision in planning, leading, and controlling activities.

I.2 Problem Definition

As explain before, we will analyze the fit between AIS, business strategy, and organizational structure by measuring them. Therefore based on the background above, the issue can be formulated as follows:

"How is the fit between AIS, business strategy, and organizational structure?"

I.3 Research Questions

Based on previous problem definition, we elaborate the research questions as follows:

1. How is the fit between low-cost strategy, centralized structure, and the AIS characteristics of scope, timeline, aggregated, and integration?

2. How is the fit between low-cost strategy, decentralized structure, and the AIS characteristics of scope, timeline, aggregated, and integration?

3. How is the fit between differentiation strategy, centralized structure, and the AIS characteristics of scope, timeline, aggregated, and integration?

4. How is the fit between differentiation strategy, decentralized structure, and the AIS characteristics of scope, timeline, aggregated, and integration?

I.4 Research Objective

The objective of this research is to explore the fit between AIS, business strategy, and organizational structure of manufacturing companies in West Sumatera. We can describe the objectives of the research in detail, as follows:

1. To explore the fit between low-cost strategy, centralized structure, and the AIS characteristics of scope, timeline, aggregated, and integration.

2. To explore the fit between low-cost strategy, decentralized structure, and the AIS characteristics of scope, timeline, aggregated, and integration.

3. To explore the fit between differentiation strategy, centralized structure, and the AIS characteristics of scope, timeline, aggregated, and integration

4. To explore the fit between differentiation strategy, decentralized structure, and the AIS characteristics of scope, timeline, aggregated, and integration.

I.5 Research Benefit

1. For the writer, in addition to knowledge and information about the fit of AIS design, organizational structure, and business strategy in related to business performance.
2. For academics, this research is expected can be literature for the next researcher about contingency fit theory in business.
3. For related entity, this research results are expected to contribute to the related entity, particularly in achieving best performance by taking into account the fit between AIS design, business strategy, and organizational structure.

I.6 Previous Research

There are some previous studies that are concerned on fit between contextual variables. Those studies focused on contingency model where we have to define specific aspects which are match with certain circumstances (Otley 1980). This contingency fit model also has been used in analysis of management accounting information system. There are also some researchers who have

research about accounting information system and the contextual variables. These researches are done considering the problems of designing accounting information systems in accordance to the specific needs of the organization (Gordon and Miller, 1976). Here are some previous researches that are concerned on fit between contextual variables.

Table 1.1
Previous Researches

Researcher	Variables	Results
Gordon and Narayanan (1984)	Management Accounting System (MAS), Perceived Environmental Uncertainty (PEU), Organizational Structure	The result of the research shows that there is positive relationship between PEU to MAS as well as PEU and MAS to organizational structure.
Chenhall and Morris (1986)	PEU, Interdependence, Decentralization	Decentralization affect aggregate and integrate, PEU affect broad scope and timeliness, interdependence affect broad scope, aggregate, and integrate.
Abertnethy and Guthrie (1994)	Broad scope, Organizational Performance, Business Strategy	Broad scope positively affects the organizational performance that has prospector strategy rather than defender.
Gul and Chia (1994)	MAS, PEU, Decentralization, Managerial Performance	The combination of both variables interacting with MAS leads to higher performance
Chong and Chong (1997)	PEU, Strategy, MAS, Performance	Strategy and PEU are significant antecedent (positive) variables for MAS scope as well have indirect linkages to business unit performance through MAS

(Continued) Table 1.1

Previous Researches

Naranjo-Gil (2004)	AIS, Strategy, Performance	Sophisticated AIS affect performance indirectly through prospector strategy
Boulianne (2007)	Business Strategy, AIS Scope, Business Unit Performance	Results suggest that for prospector, and to a lesser extent for defender, broad scope is associated with higher performance.
Soobaroyen and Poorundersing (2008)	Task Uncertainty, MAS, Decentralization, Managerial Performance	Decentralization is confirmed as an important variable in MAS design which in turn leads to better performance.

Gordon and Narayanan (1984) was doing research in investigating management accounting systems, perceived environmental uncertainty, and organization structure in 34 companies in the major cities of the states of Kansas and Missouri. They found that the decision makers in greater environmental uncertainty tend to find external, non-financial and supporting information in addition to other types of information. It means that decision makers need wider information to face high environmental uncertainty.

On the other side, Chenhall and Morris also doing research about impact of structure, environment, and interdependence on the perceived usefulness of management accounting systems of 36 manufacturing companies in Sydney. The result of the research indicates that the organizational interdependence is important when designing MAS. In addition, decentralization affects aggregate and integrate, PEU affects broad scope and timeliness, interdependence affects

broad scope, aggregate, and integrate. While Abernethy and Guthrie (1994) analyze the relationship between strategy and management information systems design. They found that broad scope information has more positive function to performance for prospector firms rather than defender firms.

Gul and Chia (1994) investigated the interaction effects of perceived environmental uncertainty (PEU), decentralization, and management accounting systems (MAS) design on managerial performance. The result shows that decentralization and MAS information characteristics of broad scope and aggregation were associated with higher managerial performance under conditions of high PEU. Chong and Chong (1997) also doing research about the relationship among PEU, MAS, and performance, in addition strategy is also included in this research. Chong and Chong examined the role of MAS design on the relationship between strategic business unit (SBU) strategy and SBU performance, and PEU on SBU performance. The result indicates that SBU strategy and PEU are important antecedents of MAS design, and broad scope MAS information is an important antecedent of SBU performance.

And then, Naranjo-Gil (2004) examined the effect of accounting information design on the performance of organization pursuing different strategic priorities in 218 hospitals in Spain. The result indicates that there is indirect effect of sophisticated accounting information system on performance through prospector strategy. Boulianne (2007) also doing same research that re-examined the relationship between strategic choice, AIS design, and business unit performance. The results suggest that for prospector, and to a lesser extent for

defender, broad scope is associated with higher performance. And Soobaroyen and Poorundersing (2008) examined the availability and effectiveness of MAS for functional managers in Mauritus. They analyzed the relationship between task uncertainty, MAS, decentralization, and managerial performance. The result shows that decentralization is confirmed as an important variable in MAS design which in turn leads to better performance.

CHAPTER II

MANUFACTURING INDUSTRY OF WEST SUMATERA

Manufacturing company is the company which performs its business activities in converting raw material into finished goods. Manufacturing companies is main support in developing of industry in a country. The development can be seen in the product quality and performance generally. Anyway, manufacturing industry is also one of many main sectors in the economy of West Sumatera. The development of this sector is quite significant from year to year. It still gives contribution to the Produk Domestik Regional Bruto/Gross Regional Domestic Product (PDRB) about 11-12% and takes 6.78% of manpower (Statistics of West Sumatera, 2011). Therefore beside it gives contribution to (PDRB), it also has important role in creating vocation.

Manufacturing Industry Directory classified the manufacturing company into micro, small, middle, and large manufacturing company based on total man power. Micro company is company which has 4 man powers or less, while small company is company who has 5-19 man powers. Middle company is the company who has 20-99 man powers, and large company is the company who has 100 and more man powers. According to Manufacturing Industry Directory in Sumatera Barat (West Sumatera) 2009 by Statistic of West Sumatera, there are 15 types or classifications of sub sector and 55 sub group of industry in Wes Sumatera based on Industrial Standard Classification of All Economics Activities. The list of 15 classifications of sub sector and the code is:

Table 2.1

Sub Sector Classifications of Manufacturing Industries in West Sumatera

No	Code	Sub Sector
1.	15	Food products and beverages (21 sub groups)
2.	17	Textiles (5 sub groups)
3.	19	Tanning, leather products, and footwear (1 sub group)
4.	20	Wood, wood products and plaiting materials (4 sub groups)
5.	21	Paper and paper products (1 sub group)
6.	22	Publishing, printing and reproduction of recorded media (2 sub groups)
7.	23	Coal, refined petroleum products and nuclear fuel (1 sub group)
8.	24	Chemicals and chemical products (3 sub groups)
9.	25	Rubber and rubber products (3 sub groups)
10.	26	Non metal mineral products (5 sub groups)
11.	27	Basic metal (1 sub group)
12.	28	Fabricated metal product, except machinery and equipment (3 sub groups)
13.	34	Motor vehicles (1 sub group)
14.	35	Other transport equipment (1 sub group)
15.	36	Furniture and others manufacturing (3 sub groups)

Source: Manufacturing Industry Directory in Sumatera Barat (West Sumatera) 2009 by Statistic of West Sumatera

These sub sectors then divided into sub group. Some of them are crude vegetable and animal cooking oil and water bottled which are included in food

products and beverages, and cement and lime plaster are included in non metal mineral products. Among all of these sub groups of industry, the most dominant industry is food products and beverages. It distributed almost in all regions in West Sumatera.

This manufacturing industry of West Sumatera is distributed in regencies, cities, and towns, some of them are in Padang, Regency of Tanah Datar, Regency of Lima Puluh Kota, Payakumbuh, Regency of Padang Pariaman, Regency of Pasaman Barat, and some other. Padang as Capital of West Sumatera Province has a third of all manufacturing industry in West Sumatera. Large manufacturing industries such as crumb rubber and cement are located in Padang. Some of middle manufacturing industries which are located in Padang are food products and beverages, printing, alteration and repair of ship, and metal pipe and pipe fitting. Other large industry such as coconut product, soft drinks, water bottled, and cassias broken are located in Regency of Padang Pariaman. For Regency of Agam and Bukittinggi, they have food products and beverages especially the crude palm oil industry, printing, and lime plaster. Regency of Solok and Solok Selatan have tea processing industry. Regency of Dharmasraya is dominant with its crude palm oil industry, the same as Regency of Pasaman Barat. While Payakumbuh, Regency of Lima Puluh Kota, and Regency of Tanah Datar are dominant with their food products and beverages and textiles.

Based on Manufacturing Industry Directory in Sumatera Barat (West Sumatera) 2009 by Statistic of West Sumatera, we can see the spread of middle and large manufacturing companies in West Sumatera. Padang has 49 manufacturing companies, which is divided into 37 middle manufacturing

companies and 12 large manufacturing companies. Regency of Padang Pariaman has 7 middle manufacturing companies and 4 large manufacturing companies. Bukittinggi and Regency of Agam have 10 manufacturing companies, but only 1 company that is classified as large manufacturing.

Regency of Solok has only one large manufacturing company, while Regency of Solok Selatan has two large manufacturing companies. And Solok has two middle manufacturing companies. Dharmasraya has 2 middle and 5 large manufacturing companies. And Sijunjung only has 1 manufacturing companies which is classified as large manufacturing companies.

Pasaman Barat has 7 large manufacturing companies and only has 1 middle company. It is different with Pasaman that has only 3 manufacturing companies that are classified as middle one. Regency of Lima Puluh Kota and Payakumbuh have 33 manufacturing companies that all are classified as middle manufacturing companies. Regency of Tanah Datar has 15 manufacturing companies, Padang Panjang has only 4, Sawahlunto has 6, Pariaman has 5, and Pesisir Selatan has only 1 manufacturing companies. All of them are classified as middle manufacturing companies.

Along with the prominent of its agriculture especially the plantation sector, generally the manufacturing industry of West Sumatera produce or process products from its natural resources specially the agriculture and plantation. We can see that from the food products industry, crude palm oil, and crumb rubber. Moreover West Sumatera has the superior commodity of crude palm oil and crumb rubber so that it has good export in these products. Beside that, the mineral

products (metal and non metal) is also prominent in manufacturing industry of West Sumatera.

Actually West Sumatera has good potential of its natural resources. It has coastal water area along the west side of Sumatera land. While its land is divided into high-land and low-land. High-land is located on the middle-west, and low-land is located along the coasts and on the east side. West Sumatera also has good natural resources from water. The potential of natural fresh water as mineral water sources can be made near around Talang Mountain in Regency of Solok, Marapi Mountain and Singgalang Mountain in Regency of Tanah Datar, Regency of Agam, Padang Panjang, and Pasaman/Talamau Mountain in Regency of Pasaman. Thus far there are some water bottled industry of mineral water which are located in Regency of Tanah Datar, Regency of Padang Pariaman, and Payakumbuh. Other potential of mineral products such as deposit of mountain stone and sand, clayey silica, iron oxide, and lime in Padang are already used by PT. Semen Padang (Padang Cement) as raw material of cement since 50 years ago.

In the case of human resources, the government of West Sumatera must work hard to make it better. Generally the human resources in West Sumatera can not fulfill the demand for high quality manpower. The manpower which allocated in agriculture sector especially in the traditional one is bigger than the manpower in non agriculture sector, for instance industry sector. As we know, industry sector has important role for the development of economy of regions, it needs manpower which have high productivity. Therefore, there is a need to evolve them and create high quality human resources in West Sumatera in order to develop its industry sector.

CHAPTER III

THEORITICAL FRAMEWORK

III.1 Contingency Theory

Contingency theory is a theory which describes that the solution of organizational problem is depends on the factors in the situation. The role of contingency theory in this research that is based on the premise that there is no universally superior accounting system which can be equally applied in all organizations in all circumstances (Otley, 1980). Otley also stated that a contingency theory must identify specific aspects of an accounting system which are associated with certain defined circumstances and demonstrate an appropriate matching. Based on contingency, there is the different need of an organization according to its strategy, structure, and others variable.

The research about contingency theory has become importance and vital (Gerdin and Greve, 2004). Researcher used this theory based on that organizations need different AIS according to organization need and other factors. By applying contingency theory, we can identify the problem under different situations. As suggested by Otley (1980), contingency identify specific aspects of accounting systems that associated with certain circumstances and demonstrate a fit. In contingency fit studies, it shows that fit organizations perform better than misfit organization (Klaas, 2004). We can recognize whether fit between strategies with AIS will direct to best performance. Under this theory we can analyze the implementation of different strategy in different AIS characteristics to the

performance of the companies. For example, we can analyze whether a certain strategy and certain organization structure are appropriate with certain AIS characteristics.

In this research, by defining four types of AIS characteristics, we analyze which kind of AIS characteristics that is appropriate with business strategy and organizational structure. By using contingency theory in defining fit between them, it is expected that it will help manager to improve the organization performance.

III.2 Business Strategy

Strategy is a detailed plan for achieving success in business. It is including the decisions and activities that are chosen by managers to achieve the organizational goals. It corresponds to the outcome of decisions made to guide an organization with respect to its environment, structure, and processes that influence its organizational performance (Aubert and Croteau, 2005). Organization implements strategy in order to compete with their competitors and to achieve the best performance.

There are three levels of strategy in business world; corporate strategy, business unit strategy, and operational strategy (Mitchell, 2003). According to Mitchell (2003), corporate strategy is an ownership oriented strategy which often held by very large business and corporation. The strategy made is for entire enterprise. For example, the strategy whether the corporation has to compete

directly with other firms or to selectively establishes cooperative relationships. Business unit strategy is strategy which focuses on how a business competes with other similar businesses in the area by employs customer surveys, and places an emphasis on setting prices and providing a variety of goods and services to the customer. This strategy is more about developing and sustaining a competitive advantage for the goods and services that are produced. And operational strategy is strategy which focuses on process efficiency and logistics. Example of operational strategy is finding more efficient ways of meeting customers' needs and using better software to reduce work errors.

There are also many types of strategy theory which provides by theorists, some of them are provided by Ansoff and Stewart (1976), Freeman (1974), Miles and Snow (1978), and Porter (1980).

1. Ansoff and Stewart (1976) Typology

Ansoff and Stewart (1967) have developed a strategy typology based on the timing of entry into a market. They divided four types of strategies, namely first-to-follow, follow-the-leader, application-engineering, and me-too. First-to-follow strategy is the strategy that always depends on innovation of R&D planning. In first-to-follow, the organizations try to develop a new product to open a new market. Organization spends a lot of cost for the planning of R&D in developing new product to become the leader in the market. Follow-the-leader strategy is strategy that enters into a growing market. After a first-to-follow spend a lot of cost in developing an innovation product, a follow-the-leader will enter quickly with the development product. So, in other words a follow-the-leader will

start the business when the market rapidly increases.

The application-engineering strategy focuses on an engineering project and modifies or improves the existing products and processes so that they are suitable for the needs of users in a mature market. Application-engineering tends to identify the unsatisfied market needs. And the me-too strategy focuses on imitating the product that has been developed successfully by other. The me-too spend a little cost in R&D activities.

2. *Freeman (1974)*

Freeman described six types of strategies based on technological innovation and capabilities. They are offensive, defensive, imitative, dependent, traditional, and opportunist strategies. An offensive strategy is designed to achieve technological and market leadership by being ahead of competitors in the innovation of new products. They try to make their product become the first in market. While defensive strategy is do not wish to be the first in the market, but also do not wish to be left behind. They take advantage from the mistake of the initiator and make an improvement. A defensive is usually organizations who do not want to take the risk in developing innovative product.

The imitative strategy is concerned in copying products of others. Imitative organization usually depends on the low-cost of production. As they entering later to the markets, they focus on selling product with competitive price. A dependent strategy usually accept subordinate role of other company. They usually have no initiative in product design and specified by their supplier

company. The traditional one is employed by company with traditional skills and incapable of innovation. The market usually requires no innovation, or competition does not force them to adjust. And the last is the opportunist strategy. The opportunist identifies opportunity in the rapidly changing market. The opportunist usually does not require R&D.

3. *Miles and Snow (1978) typology*

The Miles and Snow (1978) identified four strategies: defender, prospector, analyzer, and reactor. A defender usually attempts to protect their market from competitors. It is expert in the limited area rather than search outside for the new opportunities. The defender sustains the stable environment (Boulianne, 2007). A prospector is the innovative one. It always seeks for the new opportunities. It deals with a dynamic environment and offer many products and services through monitoring the environment (Boulianne, 2007). Thus, prospector is the creator of change and uncertainty to which their competitors must respond (Miles and Snow, 1978).

The analyzer attempt to maintain its current business whiles it also innovative in a new business. Thus, analyzer operates both in stable and dynamic environment. It operates routinely in stable environment, and also develops new ideas in innovative product in dynamic environment. And the reactor is the strategy who has no consistent strategy-structure relationship. Reactors respond to environmental threats and opportunities. The management frequently perceives change and uncertainty occurring in their organizational environments but is unable to respond effectively (Miles and Snow, 1978).

4. Porter (1980)

Michael Porter has suggested business strategy that could be adopted in order to gain competitive advantage. A competitive advantage is an advantage over competitors gained by offering consumers greater value, either by means of lower prices or by providing greater benefits and service that justifies higher prices. There are two basic types of competitive advantage: low-cost or differentiation. Based on these two basic types, firm can choose which activities that can lead them to compete with the competitors; they are cost leadership, differentiation, and focus.

Low-cost strategy (Cost leadership) is the strategy where firm sets out to become the low-cost producer in its industry. Ways of conducting the cost advantages are by improving the efficiency of the process, optimalizing outsourcing, or avoiding some cost altogether. To succeed at offering the lowest price while still achieving profitability and a high return on investment, the firm must be able to operate at a lower cost than its competitors. If a firm can achieve overall cost leadership, so the firm can be an above average performer between its competitors.

The second type is differentiation strategy. Differentiation strategy calls for the development of a product or service that offers unique attributes that are valued by customers and that customers perceive to be better than or different from the products of the competitor. In other words, differentiation strategy involves making the products or services different from and more attractive those of the competitors. This strategy needs innovation in developing the product and

makes it become high quality. The value added by the uniqueness of the product may allow the firm to charge a premium price for it.

The third type is focus. This strategy is also called segmentation strategy because it concentrates on a particular market niche, for example customer, product line, geographical area, channel of distribution, or stage in the production process by understanding the dynamics of that market and the unique needs of customers within it, develop uniquely low-cost or well-specified products for the market. Focus strategy is divided into two parts; Cost Focus and Differentiation Focus. Firms use whether cost focus or differentiation focus only in market niche. So firm can reduce the cost or differentiate the product in the market niche. Firms serve customers in their market uniquely well, so they tend to build strong brand loyalty amongst their customers. This makes their particular market segment less attractive to competitors.

The implementation of these strategies is different between inter-industry, inter-companies, and inter-situations. Firms choose a strategy depend on the situations. A strategy will produce different output if we implement it in different situations and conditions (contingency). When choosing a strategy, firms should also consider its competencies and strength.

Among those strategies, the strategy of Porter and strategy of Miles and Snow are commonly used by researcher. While in this study we use the Porter strategy. And among these three types of strategy which provided by Porter, we only use Cost Leadership and Differentiation in this study.

III.3 Organizational Structure

Organizational structure is the way how organization organizes and arranged itself. It defines how job tasks are formally divided, grouped, and coordinated (Robbins, 2003). The framework of jobs and departments that make up organization must be directed toward achieving the organization's objective. Robbins (2003) defines six key elements that managers need to address when they design their organization structure, namely work specialization, departmentalization, chain of command, span of control, centralization and decentralization, and formalization.

Work specialization, or division of labor, is used to describe the degree to which tasks in the organization are subdivided into separate job. In work specialization, individuals are separated based on their skills into separated activities. Employees within each department perform only the tasks related to their specialized function. Jobs tend to be small, but workers can perform them efficiently. But with too much specialization, employees are isolated and perform only small, narrow, boring tasks.

After jobs divided into work specialization, it needs to grouped these jobs so the task can be easy coordinated. It is called departmentalization. By putting people in a certain department, manager can easily organize the activities of the organization. In other words, manager separate different people with different skills into, for example, accounting department, engineering, and manufacturing.

Chain of command describes an unbroken line of authority that extends

from the top of the organization to the lowest level and clarifies who reports to whom. This chain has two underlying principles: unity of command and scalar principle. Unity of command states that the employees should have one and only one supervisor. And scalar principle refers to a clearly defined line of authority that includes all employees in the organization.

Span of control (span of management) describes the number of subordinates a manager can efficiently and effectively direct, or the number of workers who report to one manager. A wide span of management exists when a manager has a large number of subordinates, and a narrow span of management exists when the manager has only a few subordinates. The span of management may change from one department to another within the same organization.

Formalization describes the degree to which jobs within the organization are standardized. There are two kinds of formalization: high formalization and low formalization. The characteristics of high formalization are clear task, less decision making, and tend to be clerical. Characteristics of low formalization are many opinions from employees, empowered, and there is trust between low level and high level.

And centralization and decentralization are use to describe how the decision is made in organization. Centralization refers to the degree to which decision making is made at a single point in the organization (the top of the organization). In other words, organizations in which top managers make all the decisions and lower-level employees simply carry out those orders. While decentralization refers to which decision making is made by including the input

from lower level.

There are some determinants that can influence the extent to which an organization is centralized or decentralized. For example, the external environment in which the organizations operate. The more complex and unpredictable this environment, the more likely it is that top management will let low-level managers make important decisions. And the second is the nature of the decision itself. The riskier or the more important the decision, the greater the tendency to centralize decision making. And the abilities of low-level manager. If these managers do not have strong decision-making skills, top managers will be reluctant to decentralize. Strong low-level decision-making skills encourage decentralization.

Because of the way in making decision is different, thus the way in providing information is also different. Different type of structure means different point of responsibility, therefore different needs of information. And in this study we only consider about centralization and decentralization.

III.4 Accounting Information System

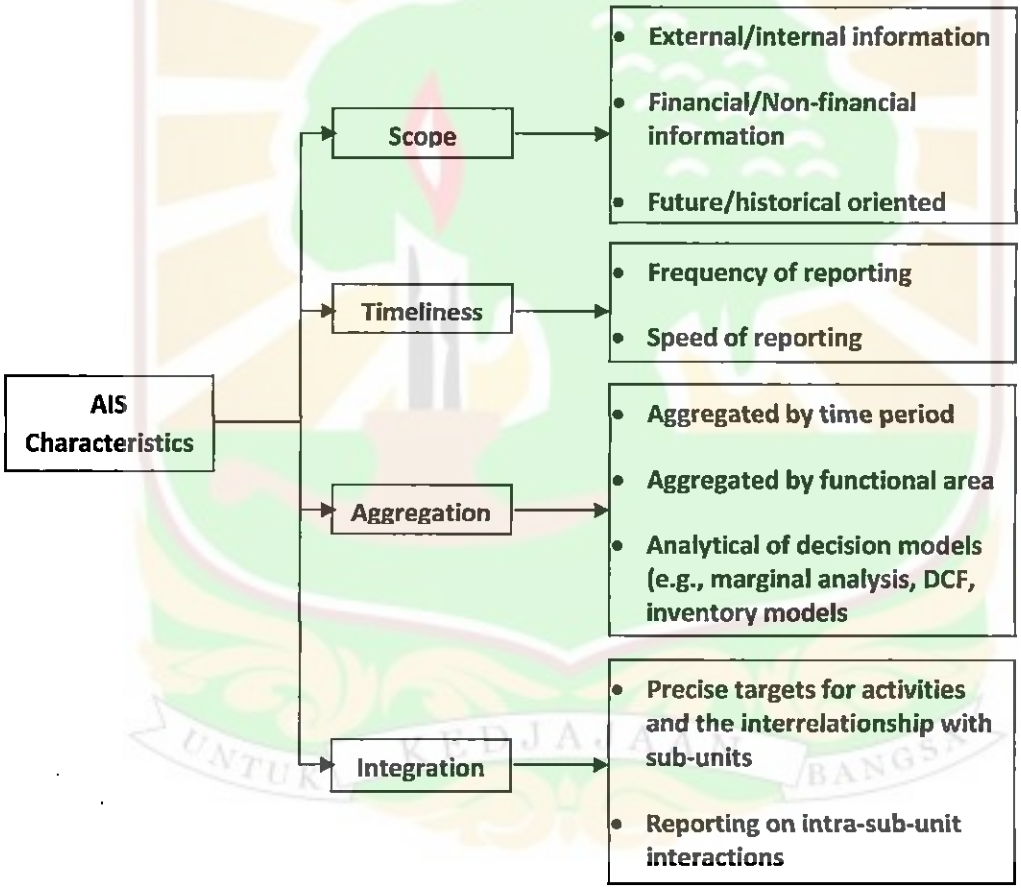
Accounting Information System is very important for the success of any organization. It was designed to support organization activities especially in providing information. AIS provide information accurately and timely so that the business activities can be run effectively. AIS provide information in both financial (e.g., net profit margin) or non-financial (e.g., employees absenteeism) reporting that are very useful for manager in making decision; it provides

identification of some situations which need management actions. In addition, AIS can reduce uncertainty and also provide the previous decision made in making the next decision (Romney & Steinbart, 2003).

Chenhall and Morris (1986) have described four characteristic of information, namely scope, timeliness, aggregation, and integration. These four characteristic was used for describing Accounting Information System.

Figure 3.1

AIS Characteristics



Sources: Adapted from the summary of the information characteristics made by Chenhall and Morris (1986)

1. *Scope*

The scope of information system refers to the dimension of focus, quantification, and time horizon (Gorry and Scott Morton, 1989). Focus refers to the extent to which information focuses internally, that is, on the organization (e.g., a business unit's productivity rate) or externally on factors that relate to the organization's environment (e.g., economic conditions). Quantification refers to financial information (e.g., net profit margin) or non-financial information (e.g., employee absenteeism rate). Time horizon refers to historical, ex post information (e.g., last year's profit), or to future-oriented, ex ante information (e.g., probability estimates of a future project outcome) (Boulianne, 2007). These internal, financial, and historical information are included in narrow-scope AIS. While broad-scope AIS are external, non-financial, and future-oriented information. Both scopes are about organization problem that can help manager in solving the problem to achieve the best performance.

2. *Timeliness*

Timeliness refers to the frequency and speed of reporting. It means the stretches of time between information needed and information provided by AIS in order to help manager in making decision. Timely information that provide by accounting system also influence the rapid feedback on

decision. Timely information will influence the manager capability in responding to events and problems in organization. This timeliness can be defined as periodical and real-time. When the information needed is provided regularly in time basis, it is called as periodical. The other way, if information is provided when it is needed, thus it is called as real-time.

3. *Aggregration*

Aggregation refers to various forms of aggregation ranging from provision of basic raw, unprocessed data to a variety of aggregations around periods of time or areas of interest such as responsibility centers or functional areas. In other words, aggregation is the information which explains the responsibility period of time and area of manager according to the functions. In current study, aggregated information is a composite of temporal and functional summation (e.g., sales area, cost center, marketing and production departments), and information produced specifically for formal decision model (Chenhall and Morris, 1986).

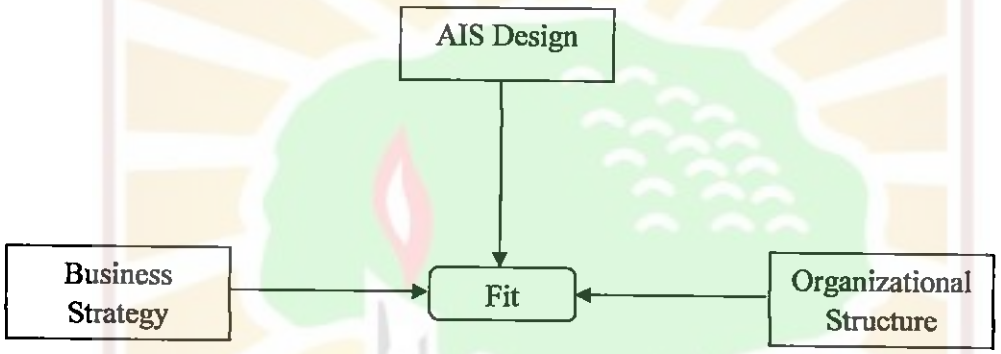
4. *Integration*

And Integration refers to coordination of functions in an organization. This information will help manager in making decision which will have impact to some segments in organization. Coordination of various segments within sub-unit is an important aspect of organization control (see Chenhall & Morris, 1986).

III.5 Theoretical Framework

Based on theoretical review above, the theoretical framework for this research can be described as followed:

Figure 3.2
Theoretical Framework



In this research, we focus on fit between 3 variables, namely AIS design, business strategy, and organizational structure. We already discussed that there 4 characteristics of AIS that we use in this research (scope, timeliness, aggregation, integration); two types of Porter business strategy (low-cost and differentiation); and two types of organizational structure (decentralization and centralization). We will measure fit between low-cost and centralization, low-cost and decentralization, differentiation and centralization, and differentiation and decentralization. And then we will also measure the fit of the four AIS characteristics in the linkages of those two types business strategy and the two types of organizational structure.

III.5 The Relationship between AIS, Business Strategy, and Organizational Structure

II.5.1 AIS, Low-Cost Strategy, and Centralized Structure

Organizations set their own strategy in order to compete with their competitors. Whether they produce products which have lower cost than competitors or put some additional value to the product that make it unique and different from their competitors. Thus organizations have to choose their strategy so that they can focus in their actions of strategy. The important thing is organizations have to design entire actions in the organization in order to integrate the activities in achieving best performance (Romney & Steinbart, 2003). Therefore it must be fit between business strategy and AIS design to achieve the best performance.

Under contingency theory, it will be able to identify the fit between AIS design with strategy and performance. Many recent studies examined whether organizations systematically vary the AIS design to support their chosen strategy, recognizing that AIS have the potential to facilitate strategy management and enhance organizational performance (Gerdin and Greve, 2004). Naranjo-Gil found that there is indirect relationship between sophisticated AIS and organizational performance acting through prospector strategy. And then Ismail and King (2005) also found that there is positive relationship between AIS alignment and organizational performance.

In this study we will analyze the fit between AIS characteristics and low-

cost/differentiation strategy, and organizational structure (centralized/decentralized). Because of the organization who adopt low-cost strategy produces products with lower price than its competitors, so the information needs is different with organization who adopt the differentiation strategy. To achieve cost efficiencies in low-cost strategy, companies may focus on improving existing processes (Chenhall and Langfield-Smith, 1998). While differentiation strategy focus the strategic priorities on satisfying customer needs for high quality products, specialized design features, fast and reliable delivery and effective post-sales support. We can conclude that low-cost is more appropriate with narrow scope (internal, financial, and historical) considering the purpose of this strategy is to conduct the cost advantage by improving the efficiency of the process and other ways, thus it will need more information about organization, financial information such as net profit margin, and historical information such as last year's profit. It is because the uncertainty in low-cost strategy is tend to low, so management can predicts about market accurately because interpreting the environment is easy regarding set rules are available (Gul and Chia, 1994).

In the same condition, low-cost strategy will need periodically instead of real-time basis in case of reporting. As we discussed in previous paragraph, low-cost strategy tend to have low uncertainty because set rules are available (Gul and Chia, 1994). So, too frequent updated information will cause an information overload situation (Soobaroeyen and Poorundersing, 2008).

In addition, the low aggregated information will be appropriate for low-

cost strategy. According to Choe (1998), aggregated information represents the summarized information that covers period or diverse management area, while low aggregated information will cause too much detailed information that may include one period or one functional area. Remembering that low-cost uses AIS to enhance companies ability to control cost instead of producing unique product, the task is not too complex as differentiation. Thus there is no need for aggregating the information. At the same time, low-cost strategy does not really need high integration considering that this strategy is better in centralized structure. As argued by Chenhall and Morris (1986), the need for integration is influenced by decentralization. They stated that when the sub-units are more decentralized, it needs more integrated information. Reversely, when the organization is centralized, it needs less integrated information. Managers set their own target without adopt from other resources, so it makes low-cost does not really need integrated information. Centralized structure is better for low-cost strategy reminding that low-cost tend to have narrow product lines in order to minimize inventory carrying cost (Gupta, 1987), in other words it has low level of uncertainty that will not overburden the hierarchy (Govindarajan, 1988). Because of that, low-cost is more appropriate with centralized structure.

Based on previous discussion, the hypothesis is stated as follows:

H1. Low-cost strategy is appropriate with centralized structure and the AIS characteristics of narrow scope, periodically timeliness, low aggregated, and low integrated information.

II.5.2 AIS, Low-Cost Strategy, and Decentralized Structure

As we discussed before, low-cost strategy that has priority in cost efficiency is more appropriate with narrow scope, periodically timeliness, low aggregated, and low integrated information. This strategy considers that the product offering is always stable over time (Govindarajan, 1988). Because of that, low-cost do not need information as much as differentiation. The stable condition in low-cost strategy will cause manager can relatively make accurate prediction and it need fewer classes of information that are critical and necessary for decision making (Gul and Chia, 1994). Thus, low-cost with appropriate AIS characteristics will consider the centralized structure instead of decentralized as many pervious researches conclude that decentralized is appropriate to respond the unexpected events (Gul and Chia, 1994).

Based on previous discussion, the hypothesis is stated as follows:

H2. Low-cost strategy with the AIS characteristics of narrow scope, periodically timeliness, low aggregated, and low integrated information is not appropriate with decentralized structure.

II.5.3 AIS, Differentiation Strategy, and Centralized Structure

In contrast to low-cost strategy, differentiation focus on the uniqueness and the exclusivity of the product and it will engage to product innovation (Govindarajan, 1998). Differentiation needs innovation in developing product to put the addition value for the product in form of uniqueness. When creating

innovated product, there will high uncertainty and managers will need more information. Managers need to know about the condition of customers need, competitors, and other current trend of external information. And also managers with differentiation strategy need more of forecast information to inform about those trends and important issues before they become difficult problems (Gordon and Miller, 1976). Because of that, differentiation is better with broad scope (external, non-financial, future-oriented).

To anticipate the changing situation, managers will need rapid reporting to provide rapid feedback in making decision. This speed of reporting will influence manager capability in responding to new events and problems. Thus the information has to be able provided when it is needed (real-time). And also the high aggregated information will help differentiation in providing functional information such as marketing, sales, cost, or profit, etc, and information for formal decisions model. It will also help in showing the influence of events on different functions associated with particular activities or tasks. When the task of differentiation is more complex because the need for more information, the organization who implement differentiation strategy need to separate the task responsibility. Then there will be need for integration of information to coordinate them. Gordon and Miller (1976) stated that manager will need information on some vital matters or parameters from other unit that will help to encourage joint problem solving among managers of separate units. The information needed by differentiation strategy who has more uncertainty is concluded by Bouwens and Abernethy (2000),

> The MA information not only needs to be broader in scope, but it also needs to be updated more frequently, to be more aggregated to allow managers to process large volumes of data, as well as provide more integrated information for better co-ordination across departments. (Bouwens and Abertnethy, 2000, p. 226)

Similarly, since the rapid reporting as anticipating to uncertain situation, the flow of information in high hierarchy will be slow which then will affect the rapid of feedback. That is why centralized structure which has high hierarchy will be not appropriate with this situation. It caused serious delays between upward information about new situation and response to that information downward (Govindarajan, 1988). Thus centralized structure is not appropriate with differentiation strategy.

Thus, based on previous discussion, the hypothesis is stated as follows:

H3. Differentiation strategy with the AIS characteristics of broad scope, real-time timeliness, high aggregated, and high integrated information is not appropriate with centralized structure.

II.5.4 AIS, Differentiation Strategy, and Decentralized Structure

Considering the previous discussion, differentiation strategy which focuses on the uniqueness and the exclusivity of the product and relate to the product innovation is better using AIS with characteristics of broad scope, real-time timeliness, low aggregated, and high integrated information. As we discuss before, differentiation need more information and the task is more complex so that

is why it needs to separate the task responsibility. And the centralized structure can not fulfill the need for quick response of events because it makes the flow of information become slowly, remembering that centralized structure has high hierarchy. Therefore, Govindarajan (1988) suggest that to deal with this situation is to move the level of decision making to where information exist rather than deliver it by flow in the hierarchy. It suggested that decentralization in the decision making as the response to this situation. As stated by Govindarajan (1988), product differentiation companies will benefit more from using a more decentralized organizational structure. It also supports the previous discussion that differentiation is better with aggregated and integrated information. The integrated information will help coordination between sub-units in the organization, while aggregated information will prevent information overload by providing functional information.

Thus, based on previous discussion, the hypothesis is stated as follows:

H4. Differentiation strategy is appropriate with decentralized structure and the AIS characteristics of broad scope, real-time timeliness, high aggregated, and high integrated information.

CHAPTER IV

RESEARCH METHOD

IV.1 Population and Sampling

The population of this research is middle and large manufacturing companies in West Sumatera listed in Manufacturing Industry Directory in Sumatera Barat 2009 by Statistics of West Sumatera Province. This Directory categorized the middle manufacturing company when it has 20-99 man powers, while manufacturing company is categorized as large manufacturing companies when it has 100 man powers or more. But not all companies which are categorized as middle and large companies have computerized AIS. Some of them are still using the traditional one. Therefore we used convenience sampling in this research where we take information from members of population who are conveniently available to provide it (Sekaran, 2003). Moreover there are some companies which have been collapse because of the earthquake in 2009. Thus from total 158 population of middle and large companies in West Sumatera we can take 50 samples.

Type of data in this research is primary data which it can be acquired from primary source (individual or personal). Primary data is in form of questionnaire which will deliver to the CEOs of manufacturing companies in West Sumatera. But other person in the organization still can fill the questionnaire as long as she/he is competent in filling the questionnaire.

IV.2 Data Collection

This research is using survey as the method in collecting data. Survey can be done by spreading the questionnaire to respondents in form of list of questions. This questionnaire is used to acquire data based on the answer from respondents (CEO of manufacturing companies in West Sumatera). Personally administered questionnaire will be used to collect data from local companies and mail questionnaire are use to collect the data from far distance companies. The questionnaires will directly distribute to respondents in the near distance, while mail questionnaires will distribute to far distance companies based on the address that we got from Manufacturing Industry Directory in Sumatera Barat 2009. We follow up the questionnaires via phone a week after questionnaires delivered or based on the agreement with respondents.

IV.3 Variables and Measurements

All data from questionnaire is collected to measure variables within hypothesis (AIS characteristics, business strategy, and organizational structure).

1. AIS Characteristics

AIS provide information in both financial (e.g., net profit margin) or non-financial (e.g., employees absenteeism) reporting that are very useful for manager in making decision. Chenhall and Morris (1986) have described four characteristic of information, namely scope, timeliness, aggregation, and integration. The four characteristics of AIS are measured by using instrument which is developed by

Rafdinal (on going to PhD). This instrument is used to measure and understand the AIS characteristics of the respondent. Respondents are asked to choose the number of scale that closely describes the characteristics of the information of their companies. There are 24 questions in the instrument with 5 Likert-type scales. The scales are used to indicate whether the organization has good enough AIS in their organization by considering the scale from 1 (very weak), 2 (moderately weak), 3 (neither strong nor weak), 4 (moderately strong), until 5 (very strong). The company's AIS is indicated as broad scope if it has answer above 3. It is indicated as real-time timeliness if it has answer also above 3. High aggregation and high integration are also indicated if it has answer above 3.

2. Business Strategy

Strategy is a detailed plan for achieving success in business. It is including the decisions and activities that are chosen by managers to achieve the organizational goals. As we discussed in the previous chapter, Porter has provided 3 type of strategy, namely Low-cost, Differentiation, and Focus. But we only use Low-cost and Differentiation in this study. We also use the instrument by Rafdinal (on going to PhD) to differentiate the type of strategy of the respondents. This instrument is used to understand the business strategy of the respondents. By still using the Likert scale, respondents are asked to describe its own strategy. With 24 questions, the scale is range from 1 (strongly disagree), 2 (disagree), 3 (neither agree nor disagree, 4 (agree), 5 (strongly agree).

3. Organizational Structure

Organizational structure is the way how organization organizes and arranged itself. It defines how job tasks are formally divided, grouped, and coordinated (Robbins, 2003). We only use two type of structure in this study: centralization and decentralization. The instrument by Rafdinal (on going to PhD) is still used to describe the type of respondents' structure with Likert scale from 1 to 5. 28 questions are provided to help respondents in describing their organizational structure. Respondents then can describe their own structure by matching the questions with the scale from 1 (strongly disagree), 2 (disagree), 3 (neither agree nor disagree, 4 (agree), 5 (strongly disagree).

IV.4 Questionnaire Development

The instrument in this research is come from instrument by Rafdinal (on going to PhD). This research is part of Rafdinal research which is also analyzing fit between AIS design, business strategy, and organizational structure. The differentiation is Rafdinal's research also analyze the effect of the fit between those three variables on AIS effectiveness and firm performance. The questionnaire is developed based on the variables of the research: AIS characteristics, business strategy, and organizational structure.

Table 4.1

The Sources of Questionnaire

Variables	Measures	Sources
AIS characteristics	• Scope • Timeliness • Aggregation • Integration	Soobaroyen and Poorundersing (2008) Chenhall and Morris (1986)
Business Strategy	• Low Cost • Differentiation	Jermias and Lindawati (2007)
Organizational Structure	• Centralization • Decentralization	Jermias and Lindawati (2007)

Thus the sources of the instrument in the Rafdinal's questionnaire are taken from some different previous research according to the topic of the research. The AIS characteristics (scope, timeliness, aggregation, and integration) are based on the research of Soobaroyen and Poondersing (2008). Both business strategy (low cost and differentiation) and organizational structure (centralization and decentralization) are based on the research of Jermias and Lindawati (2007). Before the questionnaire is delivered to respondent, the questionnaire was reviewed first by academics and managers.

IV.5 Data Analysis Method

Venkatraman (1989) has provided six different perspectives of fit, they are: fit as (a) moderation, (b) mediation, (c) matching, (d) covariation, (e) profile deviation, and (f) gestalts. In this study we only use fit as matching in measuring the fit between variables. This fit perspective is specified without reference to a criterion variable (e.g., performance) although its effect on a set of criterion variables could be examined (Venkatraman, 1989). It is appropriate for this study where we measure the fit between variables; whether the fit improves the performance would then be tested (Bergeron et. al., 2001). Venkatraman provides three related analytical schemes: deviation score analysis, residual analysis, and analysis of variance (ANOVA). In this study we will use ANOVA. Before we test the hypotheses, there is a need to test the quality of data by using test of validity and reliability. And all data analysis in this research are by using SPSS.

IV.5.1 Testing Goodness of Data

Sekaran (2003) stated that,

> ...it is important to make sure that the instrument that we develop to measure a particular concept is indeed accurately measuring the variable, and that in fact, we are actually measuring the concept that we set out to measure. (Sekaran, 2003, p. 202)

According to Sekaran, testing goodness of data is to ensure that we do not put some irrelevant elements to make sure that the instruments measure the variables they are supposed to and that they measured accurately.. Because of that we have to test the validity and the reliability of the data.

1. **Test of Validity**

Test of validity is used to test the instrument whether it is valid or invalid. We test of validity in this research by using factor analysis. Factor analysis is statistics analysis method that is used to reduce factors that influence the variables to put them in form of some sets of indicators, without losing the important information. The grouping is based on the correlation between each indicator and determining the amount of sub sets is based on eigen values which is above 1. If an indicator is grouped into other variable instead of its own variable, it means that the indicator is not valid.

2. **Test of Reliability**

Test of reliability is used to find out that the instruments are consistent if we measure the instruments twice or more at the same concept. So test of reliability can show how far the instruments can give the same result if we measure in the same object. To test the reliability in this research is by using Cronbach Alpha. High reliability will indicate that the instruments are consistent and stable Sekaran, 2003). Then instruments are reliable if the Cronbach Alpha value is bigger than 0,60 (Ghozali, 2005).

IV.5.2 Testing of Classic Assumption

The following tests are used as prerequirement to the next hypothesis testing. It is including test of normality and test of homogeneity.

1. **Test of Normality**

Test of normality is used to detect the distribution of data of variables. The good distribution of data is when the data is normally distributed. Test of normality in this research is done by using one sample test kolmogorov smirnov. The data is in normal distribution if the significance is above 0,05 (Ghozali, 2005).

2. **Test of Homogeneity**

Test of homogeneity is used to show that two or more group of sample data are come from the population that has the same variance. In other words, we have to do test of homogeneity to find out whether the research data come from the same variance. So that the difference that occurs in hypotheses is really come from the difference between groups. If the significance is bigger than 0,05 it means that data come from same variance.

IV.5.3 Hypothesis Testing

The analysis to test the hypothesis in this research is by using Analysis of Variance (ANOVA). ANOVA is a method for comparing several means. The focus of this analysis is a significance test, using F distribution, for detecting differences among a set of population means. The assumptions for the test are:

- For each group, the population distribution of the response variable Y is normal.

- The standard deviation of the population distribution is the same for each group.
- The samples from the populations are independent random samples.

We will compare the value of Ftest with Ftable. Ftest > Ftable indicates that the mean between variables is different, and conversely, Ftest < Ftable indicates that the mean between variables is same. And if p value is above 0,05, it means that the mean difference is not significant, while if p value is under 0,05 it means the mean difference is significant. The larger the F test statistic, the smaller the P-value.

If p value in ANOVA is significant, then we continue to do the multiple comparisons, because ANOVA only shows that there is mean difference. ANOVA only can shows that there is mean difference although it only has one, and without considering which group that has the mean difference. So by using multiple comparisons we can see the mean difference for each group in detail. In this research we will use Tukey test to see the mean difference for each group. At last, we consider the Tukey test to determine the hypothesis.

CHAPTER V

RESULT AND DISCUSSION

V.1 Result

V.1.1 Descriptive for Questionnaire

As we discussed in the previous chapter, the objective of this research is to explore the fit between AIS, business strategy, and organizational structure of middle and large manufacturing companies in West Sumatera. The population is based on Manufacturing Industry Directory in Sumatera Barat 2009 by Statistics of West Sumatera Province. This Directory categorized the middle manufacturing company when it has 20-99 man powers, while manufacturing company is categorized as large manufacturing companies when it has 100 man powers or more.

To discover the answer so we spread 50 questionnaires to the convenient respondents of middle and large manufacturing companies in West Sumatera. We delivered the questionnaires by mail and face-to-face questionnaires. We used convenience sampling in this research where we take information from members of population who are conveniently available to provide it (Sekaran, 2003), because not all companies which are categorized as middle and large companies have computerized AIS. From those 50 questionnaires of 158 population number we can only collect 30 of them. It because from 15 mail questionnaire we can only collect 1 of them, and there are some companies who have complicated administration which then cause the questionnaire delivered can not be fulfill. And we can analyze all of these 30 collected questionnaires.

The summary of delivered and returned questionnaires is as followed:

Table 5.1

Summary of Delivered and Returned Questionnaires

Delivered Questionnaires		50
Questionnaires can not be collected		(20)
Collected questionnaires		30
Incomplete questionnaires (unusable)		(0)
Complete questionnaires (usable)		30
Response rate	(30/50)*100% =	60%
Usable response rate	(30/50)*100% =	60%

After that, we tabulated the questionnaires based on respondents' answers, and then we analyze the data by using SPSS. The results of this research are including factor analysis, descriptive statistics, and hypothesis testing, and the last is discussion of the research.

V.1.2 Respondent Profile

The respondent in this research is the person in the manufacturing company who is competent in filling the questionnaire, for example CEO and managers. But the other person still can fill the questionnaire as long as she/he is competent in filling the questionnaire. In this questionnaire, respondents do not need to put the company name and his/her name to assure the confidentiality of respondent information. The following table shows the profile of respondent.

Table 5.2
Respondent Profile

No	Age	Gender	Education	Position	Year(s) in the position	Responsible Division	Number of Subordinates
1	36	Male	Degree	Accounting	7	0	1
2							
3	46	Male	Other	Owner	9	4	25
4	26	Female	Diploma	Secretary	3	0	0
5	24	Female	Degree	Training Assistant		0	0
6	24	Female	Other	Employee	3	0	0
7	25	Female	Degree	Employee	1	0	0
8	26	Male	Degree	Accounting	2	3	0
9	31	Male	Other	Administration	4	1	3
10			Degree	Supervisor		0	0
11							
12							
13	53	Female	Degree			2	10
14	48	Female	Other	Main Commissioner	23	6	21
15	33	Male	Degree	Manager	5	4	25
16	54	Male	Degree	Financial Manager	16	1	5
17			Degree	General Manager		3	25
18	39	Male	Degree		4	1	3
19		Male	Other	Administrator Assistant	4	2	34
20	49	Male	Other	Staff	27	1	20
21	33	Male	Degree	Senior Accounting	10	2	2
22	51	Male	Degree	CFO	8	4	
23	60	Male	Degree	Manager	10	11	
24	36	Male	Master	General Manager	2	4	5

(Continued) Table 5.2
Respondent Profile

No	Age	Gender	Education	Position	Year(s) in the position	Responsible Division	Number of Subordinates
25	33	Male	Degree	General Administrative	2		6
26							
27	36	Male	Degree	Finance & Accounting Manager	1	5	6
28				CFO			
29	34	Male	Degree	HRM	2	2	150
30	48	Male	Degree	Accounting Manager	10	6	6

Based on the table above, we can see that not all respondent fill the requested demography data. So generally, we can see that respondent has age in the range of 24-60 years. While most of respondents are male. The table also shows that most of respondent positions are manager, so the filling of questionnaire is more accurate.

V.1.3 Factor Analysis

Factor analysis is statistics analysis method that is used to reduce factors that influence the variables to put them in form of some sets of indicators, without loosing the important information. As illustration, there are 24 questions which indicate the characteristics of AIS, by using factor analysis the 24 indicators will be grouped into some sub set of a kind of indicators. Each sub sets will be named. The grouping is based on the correlation between each indicator and determining the amount of sub sets is based on eigen values which is above 1.

Factor analysis is used to examine whether there is factors that have not been well identified (explanatory research). Beside that, factor analysis is also used to test the questionnaire validity. If an indicator is grouped into other variable instead of its own variable, it means that the indicator is not valid.

V.1.3.1 Factor Analysis for AIS Characteristics Variable

In this research, AIS characteristics has 24 statement items which are divided into 4 indicators namely scope, timeliness, aggregation, and integration. The following table shows the result of factor analysis based on indicator of scope, timeliness, aggregation, and integration, consist of *Kaiser-Meyer-Olkin (KMO)* and *Bartlett's Test of Sphericity, Anti Images Matrices, communalities,* and *total variance explained.*

Table 5.3
Summary of *Kaiser-Meyer-Olkin (KMO)* and *Bartlett's Test of Sphericity* for AIS Characteristics Variable

Indicator	Kaiser-Meyer-Olkin Measure of Sampling Adequacy	Bartlett's Test of Sphericity		
		Approx. Chi-Square	Df	Sig
Scope	0,861	75,094	15	0,000
Timelines	0,665	24,593	10	0,000
Aggregation	0,653	171,635	45	0,000
Integration	0,665	19,498	3	0,000

For AIS characteristics, all indicators have KMO value > 0,5. It shows that factor analysis can be used for our data. The feasibility of our data also can be seen from *anti image matrices,* where each indicator has MSA value > 0,5, as we

can see in the following table 5.4.

Table 5.4
***Anti Image Matrices* for AIS Characteristics Variable**

No	Item	MSA Value*	Explanation
1	Scope 1	0,870	Valid
2	Scope 2	0,859	Valid
3	Scope 3	0,819	Valid
4	Scope 4	0,839	Valid
5	Scope 5	0,900	Valid
6	Scope 6	0,901	Valid
7	Timelines 1	0,518	Valid
8	Timelines 2	0,748	Valid
9	Timelines 3	0,665	Valid
10	Timelines 4	0,733	Valid
11	Timelines 5	0,656	Valid
12	Aggregation 1	0,782	Valid
13	Aggregation 2	0,884	Valid
14	Aggregation 3	0,840	Valid
15	Aggregation 4	0,754	Valid
16	Aggregation 5		Invalid/Removed
17	Aggregation 6	0,773	Valid
18	Aggregation 7	0,713	Valid
19	Aggregation 8	0,766	Valid
20	Aggregation 9	0,758	Valid
21	Aggregation 10	0,747	Valid
22	Integration 1	0,740	Valid
23	Integration 2	0,658	Valid
24	Integration 3	0,627	Valid

*MSA value of item(s) removed can be seen in the appendix

Based on the table above, we can see that there is one item AIS characteristics variable in the indicator of aggregation which has MSA value under 0.50 namely the item "Aggregation 5" about "Information that enable you to conduct "what-if" analysis". So the "Aggregation 5" is removed from analysis so there are 23 items left of AIS characteristics variable that can be included in the next analysis.

The result of factor extraction for AIS characteristics can be seen in the following table.

Table 5.5
Communalities

	Initial	Extraction
Scope 1	1,000	0,567
Scope 2	1,000	0,773
Scope 3	1,000	0,590
Scope 4	1,000	0,706
Scope 5	1,000	0,485
Scope 6	1,000	0,557
Timelines 1	1,000	0,860
Timelines 2	1,000	0,560
Timelines 3	1,000	0,679
Timelines 4	1,000	0,539
Timelines 5	1,000	0,688
Aggregation 1	1,000	0,758
Aggregation 2	1,000	0,534
Aggregation 3	1,000	0,756
Aggregation 4	1,000	0,725
Aggregation 6	1,000	0,703
Aggregation 7	1,000	0,623
Aggregation 8	1,000	0,790
Aggregation 9	1,000	0,642
Aggregation 10	1,000	0,741
Integration 1	1,000	0,579
Integration 2	1,000	0,676
Integration 3	1,000	0,735

Communalities is total variance (can be in percentage) of beginning factor that can be explained by existing factor. The initial number is used to get to know the variance of factor which each factor has 1 that shows the amount of that variance. The extraction number is to get to know the total variance of beginning factor that can be explained by forming factor (can be seen in the appendix component matrix table).

From these 23 items that is included in factor analysis, the Timeliness 1

item about "Requested information to arrive immediately upon request" has 0,860 extraction value which is about 86% variances from variable "Requested information to arrive immediately upon request" can be explained by forming factor. Meanwhile, the lowest extraction value is item Scope 5 about "Nonfinancial information that relates to production information such as output rates, scrap levels, machine efficiency, employee absenteeism, etc" with the value of 48,5%. The greater the variable Communalities, the stronger the relationship with forming factor.

There are 23 items of AIS characteristics variable that are included in factor analysis. Each item has 1 variance, there are 6 items for scope indicator thus the total of variance is 6 x 1 = 6. For timeliness indicator there are 5 items with total of variance is 5 x 1 = 5. There are 9 items for aggregation indicator with total of variance is 9 x 1 = 9, and for integration indicator there are 3 items with total of variance is 3 x 1 = 3. The result of Total Variance Explained of items for AIS characteristics variable can be seen in the following tables:

Table 5.6
***Total Variance Explained* for AIS Characteristics Variable (Scope Indicator)**

Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	3,677	61,288	61,288	3,677	61,288	61,288
2	,665	11,085	72,373			
3	,619	10,315	82,688			
4	,479	7,989	90,677			
5	,288	4,799	95,476			
6	,271	4,524	100,000			

Extraction Method: Principal Component Analysis.

Based on table 5.6 we can see that only 1 component has eigen value > 1, thus the 6 items about AIS characteristics for scope indicator can be concise into 1

factor only, where variance that can be explained by this factor is 61,30%.

Table 5.7
***Total Variance Explained* for AIS Characteristics Variable**
(Timeliness Indicator)

Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	2,237	44,737	44,737	2,237	44,737	44,737	1,866	37,315	37,315
2	1,088	21,767	66,504	1,088	21,767	66,504	1,459	29,189	66,504
3	,712	14,243	80,747						
4	,542	10,835	91,582						
5	,421	8,418	100,000						

Extraction Method: Principal Component Analysis.

Table 5.7 show that there are 2 components who have eigen value > 1, so the 5 items of AIS characteristics for timeliness indicator can be concise into 2 factor, where variance that can be explained by those factor is 66,50%.

Table 5.8
***Total Variance Explained* for AIS Characteristics Variable**
(Aggregation Indicator)

Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	4,915	54,606	54,606	4,915	54,606	54,606	3,146	34,961	34,961
2	1,358	15,094	69,700	1,358	15,094	69,700	3,127	34,739	69,700
3	,729	8,101	77,801						
4	,559	6,212	84,013						
5	,499	5,545	89,558						
6	,343	3,808	93,366						
7	,286	3,174	96,540						
8	,217	2,409	98,949						
9	,095	1,051	100,000						

Extraction Method: Principal Component Analysis.

Based on table 5.8 we can see that there are 2 components have eigen value > 1, so the 9 items about AIS characteristics for aggregation indicator can be concise into 2 factors, where variance that can be explained by those factors is 69,7%.

Table 5.9
***Total Variance Explained* for AIS Characteristics Variable**
(Integration Indicator)

Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	1,990	66,325	66,325	1,990	66,325	66,325
2	,605	20,164	86,489			
3	,405	13,511	100,000			

Extraction Method: Principal Component Analysis.

Table 5.9 shows that there is only 1 component who has eigen value > 1, thus the 3 items of AIS characteristics for integration indicator can be concise into 1 factor only, where variance that can be explained by this factor is 66,33%.

V.1.3.2 Factor Analysis for Business Strategy Variable

Business strategy variable is influenced by 24 indicators that came from 2 indicators namely low-cost (cost leadership) and differentiation.

Table 5.10
Summary of *Kaiser-Meyer-Olkin (KMO)* and *Bartlett's Test of Sphericity*
Business Strategy Variable

Indicator	Kaiser-Meyer-Olkin Measure of Sampling Adequacy	Bartlett's Test of Sphericity		
		Approx. Chi-Square	df	Sig
Low-Cost	0,611	68,170	15	0,000
Differentiation	0,636	109,992	45	0,000

Each indicator in business strategy variable get KMO value > 0,5, where low-cost has 0,611 and differentiation has 0,636. It means that factor analysis can

be implemented for our data. The feasibility of our data also can be seen from anti image matrices value, where each indicator has MSA value > 0,5, as we can see in the following table.

Table 5.11
***Anti Image Matrices* for Business Strategy Variable**

No	Item	MSA Value*	Explanation
1	Low-Cost 1	0,677	Valid
2	Low-Cost 2		Invalid/Removed
3	Low-Cost 3		Invalid/Removed
4	Low-Cost 4	0,834	Valid
5	Low-Cost 5	0,578	Valid
6	Low-Cost 6	0,569	Valid
7	Low-Cost 7	0,559	Valid
8	Low-Cost 8	0,651	Valid
9	Low-Cost 9		Invalid/Removed
10	Low-Cost 10		Invalid/Removed
11	Differentiation 1		Invalid/Removed
12	Differentiation 2	0,607	Valid
13	Differentiation 3	0,596	Valid
14	Differentiation 4	0,567	Valid
15	Differentiation 5	0,678	Valid
16	Differentiation 6		Invalid/Removed
17	Differentiation 7	0,659	Valid
18	Differentiation 8	0,666	Valid
19	Differentiation 9	0,534	Valid
20	Differentiation 10	0,770	Valid
21	Differentiation 11	0,662	Valid
22	Differentiation 12	0,644	Valid
23	Differentiation 13		Invalid/Removed
24	Differentiation 14		Invalid/Removed

*MSA value of item(s) removed can be seen in the appendix

Table 5.11 shows that there are 4 items of business strategy variable for low-cost indicator who have MSA value under 0,50, they are Low-Cost 2 about "The breadth of our product line is important to attaining and retaining our cost advantage"; Low-Cost 3 about "We sell standard, no-frills product"; Low-Cost 9 about "Our business unit has cost control programs related to non-manufacturing

activities"; and Low-Cost 10 about "Management sets targets for learning improvements". Therefore the four items are removed from analysis so low-cost indicator only has 6 statement items that can be included in the next analysis.

For differentiation indicator, there are also 4 items that have MSA value under 0,50, they are Differentiation 1 about "We choose to specialize in a particular market segment"; Differentiation 6 about "We seek to maintain brand identification rather than complete mainly on price"; Differentiation 13 about "In our business unit, management encourages discipline"; and Differentiation 14 about "In our business unit, management encourages attention to detail". Therefore the four items are removed from analysis so there are only 10 items of differentiation indicator that can be included in the next analysis.

We can see the result of factor extraction for business strategy in the following table:

Table 5.12
Communalities

	Initial	Extraction
Low-Cost 1	1,000	0,707
Low-Cost 4	1,000	0,478
Low-Cost 5	1,000	0,831
Low-Cost 6	1,000	0,603
Low-Cost 7	1,000	0,855
Low-Cost 8.	1,000	0,490
Differentiation 2	1,000	0,599
Differentiation 3	1,000	0,898
Differentiation 4	1,000	0,876
Differentiation 5	1,000	0,673
Differentiation 7	1,000	0,816
Differentiation 8	1,000	0,856
Differentiation 9	1,000	0,681
Differentiation 10	1,000	0,630
Differentiation 11	1,000	0,694
Differentiation 12	1,000	0,809

The table shows that the item Differentiation 3 about "We are constantly developing new products" has 0,898 extraction value which is 89,9% variance from "We are constantly developing new products" variable can be explained by forming factor. Meanwhile, the item that has the lowest extraction value is Low-Cost 4 bout "We place considerable emphasis on reaping cost advantages from all sources" with the value 47,8%. The greater the variable Communalities, the stronger the relationship with forming factor.

There are 16 items of business strategy variable that are included in factor analysis. Each item has 1 variance, there are 6 items for low-cost indicator thus the total of variance is 6 x 1 = 6. For differentiation indicator there are 10 items with total of variance is 10 x 1 = 10.

The result of Total Variance Explained of items for business strategy variable can be seen in the following tables:

Table 5.13
***Total Variance Explained* for Business Strategy Variable**
(Low-Cost Indicator)

Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	2,677	44,619	44,619	2,677	44,619	44,619	2,173	36,219	36,219
2	1,286	21,439	66,058	1,286	21,439	66,058	1,790	29,839	66,058
3	,876	14,602	80,660						
4	,580	9,660	90,321						
5	,495	8,258	98,579						
6	,085	1,421	100,000						

Extraction Method: Principal Component Analysis.

Based on table 5.13 we can see that there are 2 components has eigen value > 1, thus the 6 items about business strategy for low-cost indicator can be concise into 2 factors, where variance that can be explained by this factor is 66,06%.

Table 5.14
***Total Variance Explained* for Business Strategy Variable**
(Differentiation Indicator)

Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	3,741	37,413	37,413	3,741	37,413	37,413	2,116	21,162	21,162
2	1,575	15,753	53,167	1,575	15,753	53,167	1,879	18,789	39,951
3	1,180	11,795	64,962	1,180	11,795	64,962	1,818	18,180	58,131
4	1,036	10,360	75,322	1,036	10,360	75,322	1,719	17,191	75,322
5	,713	7,132	82,454						
6	,612	6,116	88,570						
7	,497	4,973	93,544						
8	,293	2,928	96,472						
9	,248	2,475	98,947						
10	,105	1,053	100,000						

Extraction Method: Principal Component Analysis.

Based on table 5.14 we can see that there are 4 components has eigen value > 1, thus the 10 items about business strategy for differentiation indicator can be concise into 4 factors, where variance that can be explained by this factor is 75,32%.

V.1.3.3 Factor Analysis for Organizational Structure

Organizational structure variable is influenced by 28 indicators that came from 2 indicators namely decentralization and centralization.

Table 5.15
Summary of *Kaiser-Meyer-Olkin (KMO)* and *Bartlett's Test of Sphericity*
Organizational Structure Variable

Indicator	Kaiser-Meyer-Olkin Measure of Sampling Adequacy	Bartlett's Test of Sphericity		
		Approx. Chi-Square	Df	Sig
Decentralization	0,773	209,953	78	0,000
Centralization	0,812	235,172	45	0,000

Each indicator in organizational structure variable has KMO value > 0,5, namely decentralized is 0,773 and centralized 0,812. It means that factor analysis can be implemented for our data.

The feasibility of our data also can be seen from anti image matrices value, where each indicator has MSA value > 0,5, as we can see in the following table.

Table 5.16
***Anti Image Matrices* for Organizational Structure Variable**

No	Item	MSA Value*	Explanation
1	Decentralization 1	0,799	Valid
2	Decentralization 2	0,851	Valid
3	Decentralization 3	0,829	Valid
4	Decentralization 4		Invalid/Removed
5	Decentralization 5	0,863	Valid
6	Decentralization 6	0,835	Valid
7	Decentralization 7	0,707	Valid
8	Decentralization 8	0,781	Valid
9	Decentralization 9	0,677	Valid
10	Decentralization 10	0,655	Valid
11	Decentralization 11	0,805	Valid
12	Decentralization 12	0,747	Valid
13	Decentralization 13	0,825	Valid
14	Decentralization 14	0,681	Valid
15	Centralization 1	0,686	Valid
16	Centralization 2		Invalid/Removed
17	Centralization 3		Invalid/Removed
18	Centralization 4		Invalid/Removed
19	Centralization 5	0,698	Valid
20	Centralization 6		Invalid/Removed
21	Centralization 7	0,745	Valid
22	Centralization 8	0,929	Valid
23	Centralization 9	0,859	Valid
24	Centralization 10	0,908	Valid
25	Centralization 11	0,807	Valid
26	Centralization 12	0,788	Valid
27	Centralization 13	0,757	Valid
28	Centralization 14	0,876	Valid

*MSA value of item(s) removed can be seen in the appendix

The table shows that there is 1 item of organizational structure variable for decentralization has MSA value under 0,50 namely for the item Decentralization 4 about "Little action is taken here until a supervisor approves a decision". Therefore item Decentralization 4 is removed so there are only 13 items left for decentralization indicator that can be included in the next analysis.

For centralization indicator, there are 4 items that have MSA value under 0,50, they are Centralization 2 about "Even small matters have to be referred to someone higher up for a final answer"; Centralization 3 about "We frequently participate in the decision on the adoption of new policies"; Centralization 4 about "We usually participate in the decision on the adoption of new programs"; and Centralization 6 about "We usually participate in the decisions on the promotions of any of the professional staff". Therefore the four items are removed from analysis so there are only 10 items for centralization indicator that can be included in the next analysis.

We can see the result of factor extraction for organizational structure variable in the table 5.17.

We can see in the table 5.17 that Centralization 12 about "The monitoring of actions taken to achieve these targets on an ongoing basis is decided by my boss" has 0,911 extraction value, it means that 91,1% variance from item Centralization 12 can be explained by forming factor. Meanwhile, item that has lowest extraction value is item Decentralization 14 about "We frequently participate in decisions to increase the number of employees in a business unit" with the value 36,4%. The greater the variable Communalities, the stronger the relationship with forming factor.

Table 5.17
Communalities

	Initial	Extraction
Decentralization 1	1,000	0,580
Decentralization 2	1,000	0,692
Decentralization 3	1,000	0,632
Decentralization 5	1,000	0,705
Decentralization 6	1,000	0,702
Decentralization 7	1,000	0,823
Decentralization 8	1,000	0,640
Decentralization 9	1,000	0,811
Decentralization 10	1,000	0,824
Decentralization 11	1,000	0,744
Decentralization 12	1,000	0,710
Decentralization 13	1,000	0,789
Decentralization 14	1,000	0,364
Centralization 1	1,000	0,851
Centralization 5	1,000	0,442
Centralization 7	1,000	0,702
Centralization 8	1,000	0,660
Centralization 9	1,000	0,812
Centralization 10	1,000	0,854
Centralization 11	1,000	0,701
Centralization 12	1,000	0,911
Centralization 13	1,000	0,881
Centralization 14	1,000	0,641

There are 23 items of organizational structure variable that are included in factor analysis. Each item has 1 variance, there are 13 items for decentralization indicator thus the total of variance is 13 x 1 = 6. For centralization indicator there are 10 items with total of variance is 10 x 1 = 10.

The results of Total Variance Explained of items for organizational structure variable are as followed:

Table 5.18
***Total Variance Explained* for Organizational Structure Variable (Decentralization Indicator)**

Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	5,676	43,665	43,665	5,676	43,665	43,665	3,424	26,340	26,340
2	1,937	14,898	58,563	1,937	14,898	58,563	2,989	22,994	49,334
3	1,401	10,781	69,343	1,401	10,781	69,343	2,601	20,009	69,343
4	,922	7,092	76,436						
5	,655	5,038	81,474						
6	,578	4,443	85,917						
7	,487	3,749	89,665						
8	,391	3,011	92,676						
9	,275	2,114	94,790						
10	,264	2,034	96,824						
11	,196	1,508	98,332						
12	,148	1,135	99,467						
13	,069	,533	100,000						

Extraction Method: Principal Component Analysis.

Based on table 5.18 we can see that there are 3 components has eigen value > 1, thus the 13 items about organizational structure for decentralization indicator can be concise into 3 factors, where variance that can be explained by this factor is 69,34%.

Table 5.19
***Total Variance Explained* for Organizational Structure Variable (Centralization Indicator)**

Total Variance Explained

Component	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	5,898	58,983	58,983	5,898	58,983	58,983	3,791	37,911	37,911
2	1,555	15,555	74,538	1,555	15,555	74,538	3,663	36,627	74,538
3	,748	7,482	82,020						
4	,639	6,395	88,415						
5	,343	3,430	91,845						
6	,308	3,085	94,930						
7	,235	2,347	97,277						
8	,110	1,104	98,382						
9	,093	,929	99,311						
10	,069	,689	100,000						

Extraction Method: Principal Component Analysis.

Based on table 5.19 we can see that there are 2 components has eigen value > 1, thus the 10 items about organizational structure for centralization indicator can be concise into 2 factors, where variance that can be explained by this factor is 74,54%.

V.1.4 Test of Reliability

Test of reliability is used to find out how reliable the instruments by using Cronbach Alpha. Instruments are reliable if the Cronbach Alpha value is bigger than 0,60 (Ghozali, 2005). The result of reliability testing for each variable is as followed:

Table 5.20
The Result of Reliability Testing for Instruments

Variables	Indicator	Alpha cronbach	Explanation
AIS Characteristics	Scope	0,869	Reliable
	Timelines	0,668	Reliable
	Aggregation	0,888	Reliable
	Integration	0,744	Reliable
Business Strategy	Low-cost	0,742	Reliable
	Differentiation	0,734	Reliable
Organizational Structure	Decentralization	0,836	Reliable
	Centralization	0,780	Reliable

Based on table 5.20 we can see that the cronbach alpha value for each variable is ≥ 0,60. Therefore we can conclude that the instruments are reliable so we can use them in the hypothesis testing.

V.1.5 Descriptive Statistics for Variables

1. AIS Characteristics

As we discussed before, AIS characteristics is divided into 4 indicators namely Scope, Timeliness, Aggregation, Integration. The perception of each respondent for AIS characteristics in the company can be seen in the following tables:

Table 5.21
Frequency Distribution of Respondent for AIS Characteristics (Scope Indicator)

No	Item	Respondents Answer					Mean
		VW	MW	NSNW	MS	VS	
1	Information which relates to possible future events (e.g., legislation, new projects, etc).	1 (3,3%)	5 (16,7%)	11 (36,7%)	8 (26,7%)	5 (16,7%)	3,37 (67,4%)
2	Quantification of the likelihood of future events to occur (e.g., probability estimates).	1 (3,3%)	5 (16,7%)	15 (50%)	8 (26,7%)	1 (3,3%)	3,10 (62%)
3	Noneconomic information, such as customer preferences, employee attitudes, labor relations, attitudes of government and consumer bodies, competitive threats, etc.	1 (3,33%)	7 (23,2%0	10 (33,3%)	10 (33,3%)	2 (6,7%)	3,17 (63,4%)
4	Information on broad factors external to your organization, such as economic conditions, population growth, technological developments, etc.	2 (6,7%)	6 (20%)	13 (43,3%)	8 (26,7%)	1 (3,3%)	3,00 (60%)
5	Nonfinancial information that relates to production information such as output rates, scrap levels, machine efficiency, employee absenteeism, etc.	1 (3,3%)	2 (6,7%)	12 (40%)	11 (36,7%)	4 (13,3%)	3,50 (70%)

(Continued) Table 5.21
Frequency Distribution of Respondent for AIS Characteristics (Scope Indicator)

6	Nonfinancial information that relates to market information such as market size, growth share, etc.		7 (23,3%)	9 (30%)	11 (36,7%)	3 (10%)	3,33 (66,67%)
	Mean	1 (3,3%)	5 (16,7%)	12 (40%)	9 (30%)	3 (10%)	3,24 (64,8%)

Table 5.21 shows that the mean of AIS characteristics for scope indicator is 3,24 or with percentage 64,8%. We can see that the mean of respondents who answer Very Strong is 3, the mean of respondents who answer Moderately Strong is 9, 12 for Neither Strong Nor Weak, 5 for Moderately Weak, and 1 for Very Weak. The highest mean for respondent answer in case of Scope is 3,50 (item 5) and the lowest mean is 3,00 (item 4).

Table 5.22
Frequency Distribution of Respondent for AIS characteristics Variable (Timeliness Indicator)

No	Item	Respondent Answer					Mean
		VW	MW	NSNW	MS	VS	
1	Requested information to arrive immediately upon request.		3 (10%)	14 (46,7%)	7 (23,3%)	6 (20%)	3,53 (70,67%)
2	Information supplied to you automatically upon its receipt into information systems or as soon as processing is completed.		2 (6,7%)	11 (36,7%)	15 (50%)	2 (6,7%)	3,57 (71,33%)
3	Reports provide frequently in a systematic manner.		2 (6,7%)	10 (33,3%)	16 (53,3%)	2 (6,7%)	3,60 (72%)
4	Reports provided frequently on a regular basis (e.g., daily reports, weekly reports).			7 (23,3%)	12 (40%)	11 (36,7%)	4,13 (82,67%)
5	No delay between event occurring and relevant information being reported to you.		7 (23,3%)	17 (56,7%)	5 (16,7%)	1 (3,3%)	3,00 (60%)
	Mean		3 (10%)	12 (40%)	11 (36,7%)	4 (13,3%)	3,57 (71,33%)

Table 5.22 shows that the mean of AIS characteristics for timeliness indicator is 3,57 or with percentage 71,33%. We can see that the mean of respondents who answer Very Strong is 4, the mean of respondents who answer Moderately Strong is 11, 12 for Neither Strong Nor Weak, 3 for Moderately Weak, and none of respondent answer Very Weak. The highest mean for respondent answer in case of timeliness is 4,13 (item 4) and the lowest mean is 3,00 (item 5).

Table 5.23
Frequency Distribution of Respondent for AIS Characteristics Variable (Aggregation Indicator)

No	Item	Respondent Answer					Mean
		VW	MW	NSNW	MS	VS	
1	Information provided on the different sections or functional areas in your organization, such as marketing and production, or sales, cost, or profit centers.	2 (6,7%)	3 (10%)	10 (33,3%)	11 (36,7%)	4 (13,3%)	3,40 (68%)
2	Information on the effect of events on particular time periods (e.g., monthly/quarterly/annual summaries, trends, comparisons, etc).		4 (13,3%)	13 (43,3%)	10 (33,3%)	3 (10%)	3,40 (68%)
3	Information has been processed in order to show the influence of events on different functions, such as marketing or production associated with particular activities or tasks.	1 (3,3%)	4 (13,3%)	12 (40%)	10 (33,3%)	3 (10%)	3,33 (66,67%)
4	Information on the effect of different sections' activities on summary reports such as profit, cost, revenue reports for your particular sections and the overall organization, has been provided.	1 (3,3%)	5 (16,7%)	10 (33,3%)	12 (40%)	2 (6,7%)	3,30 (66%)

(Continued) Table 5.23
Frequency Distribution of Respondent for AIS Characteristics Variable (Aggregation Indicator)

5	Information in formats suitable for input into discounted cash flow analysis.		3 (10%)	10 (33,3%)	16 (53,3%)	1 (3,3%)	3,50 (70%)
6	Information in formats suitable for input into incremental or marginal analysis.		3 (10%)	16 (53,3%)	10 (33,3%)	1 (3,3%)	3,30 (66%)
7	Information in formats suitable for input into inventory analysis.	1 (3,3%)	4 (13,3%)	13 (43,3%)	11 (36,7%)	1 (3,3%)	3,23 (64,67%)
8	Information in formats suitable for input into credit policy analysis.	1 (3,3%)	6 (20%)	15 (50%)	6 (20%)	2 (6.7%)	3,07 (61,33%)
9	Cost separated into fixed and variable components.		3 (10%)	8 (26,7%)	16 (53,3%)	3 (10%)	3,63 (72,67%)
	Mean	1 (3,3%)	4 (13,3%)	12 (40%)	11 (36,7%)	2 (6,7%)	3,35 (67,04%)

Table 5.23 shows that the mean of AIS characteristics for aggregation indicator is 3,35 or with percentage 67,04%. We can see that the mean of respondents who answer Very Strong is 2, the mean of respondents who answer Moderately Strong is 11, 12 for Neither Strong Nor Weak, 4 for Moderately Weak, and 1 for Very Weak. The highest mean for respondent answer in case of aggregation is 3,63 (Cost separated into fixed and variable components) and the lowest mean is 3,07 (Information in formats suitable for input into credit policy analysis).

Table 5.24
Frequency Distribution of Respondent for AIS Characteristics Variable (Integration Indicator)

No	Item	Respondent Answer					Mean
		VW	MW	NSNW	MS	VS	
1	Information on the impact that your decision will have throughout your department, and the influence of other individuals' decisions on your area of responsibility.	1 (3,3%)	4 (13,3%)	15 (50%)	8 (26,7%)	2 (6,7%)	3,20 (64%)
2	Precise targets for the activities of all sections within your department.		4 (13,3%)	12 (40%)	12 (40%)	2 (6,7%)	3,40 (68%)
3	Information that relates to the impact that your decisions have on the performance of your department.		3 (10%)	15 (50%)	7 (23,3%)	5 (16,7%)	3,47 (69,33%)
	Mean	0 3,3%)	4 (13,3%)	14 (46,7%)	9 (30%)	3 (10%)	3,36 (67,11%)

Table 5.24 shows that the mean of AIS characteristics for integration indicator is 3,36 or with percentage 67,11%. We can see that the mean of respondents who answer Very Strong is 3, the mean of respondents who answer Moderately Strong is 9, 14 for Neither Strong Nor Weak, 3,5 for Moderately Weak, and only 1 respondent who answer for Very Weak which the mean is close to 0 (zero). The highest mean for respondent answer in case of integration is 3,47 (Information that relates to the impact that your decisions have on the performance of your department.) and the lowest mean is 3,20 (Information on the impact that your decision will have throughout your department, and the influence of other individuals' decisions on your area of responsibility).

2. Business Strategy

Business strategy variable is divided into two: low-cost and differentiation. The perception of each respondent for business strategy in the company can be seen in the following tables:

Table 5.25
Frequency Distribution of Respondent for Business Strategy Variable (Low-Cost Indicator)

No	Item	Respondent Answer					Mean
		SD	D	NAND	A	SA	
1	One of our objectives is to be the low cost producer in our industry.		1 (3,3%)	6 (20%)	18 (60%)	5 (16,7%)	3,90 (78%)
2	We place considerable emphasis on reaping cost advantages from all sources.		3 (10%)	5 (16,7%)	18 (60%)	4 (13,3%)	3,77 (75,33%)
3	We invest in technology to develop low-cost processes.		3 (10%)	5 (16,7%)	14 (46,7%)	8 (26,7%)	3,90 (78%)
4	We invest in technology to facilitate automation.		2 (6,7%)	8 (26,7%)	18 (60%)	2 (6,7%)	3,67 (73,33%)
5	We invest in technology to develop low-cost product design.		3 (10%)	6 (20%)	14 (46,7%)	7 (23,3%)	3,83 (76,67%)
6	Our business unit has cost control programs related to manufacturing activities.		3 (10%)	5 (16,7%)	21 (70%)	1 (3,3%)	3,67 (73,33%)
	Mean		2 (10%)	6 (20%)	17 (56,7%)	5 (16,7%)	3,79 (75,78%)

Table 5.25 shows that the mean of business strategy for low-cost indicator is 3,79 or with percentage 75,78%. We can see that the mean of respondents who answer Strongly Agree is 5, the mean of respondents who answer Agree is 17, 6 for Neither Agree Nor Disagree, 2 for Disagree, and none of respondent answer Strongly Disagree. The highest mean for respondent answer in case of low-cost is 3,90 (item number 1 and number 3) and the lowest mean is 3,67 (item number 4 and number 6).

Table 5.26
Frequency Distribution of Respondent for Business Strategy Variable (Differentiation Indicator)

No	Item	Respondent Answer					Mean
		SD	D	NAND	A	SA	
1	We choose to specialize in a particular geographic area.		4 (13,3%)	13 (43,3%)	12 (40%)	1 (3,3%)	3,33 (66,67%)
2	We are constantly developing new products.		3 (10%)	10 (33,3%)	12 (40%)	5 (16,7%)	3,63 (72,67%)
3	We are constantly developing technological improvements to existing products.			3 (10%)	22 (73,3%)	5 (16,7%)	4,07 (81,33%)
4	We offer a broad product line to appeal to as many potential customers as possible.	1 (3,3%)	1 (3,3%)	14 (46,7%)	10 (33,3%)	4 (13,3%)	3,50 (70%)
5	Product innovation is the most important aspect of our business.		5 (16,7%)	2 (6,7%)	19 (63,3%)	4 (13,3%)	3,73 (74,67%)
6	We seek to be unique in our industry, and find that buyers are willing to pay a premium price for that uniqueness.		8 (26,7%)	8 (26,7%)	11 (36,7%)	3 (10%)	3,30 (66%)
7	In our business unit, management encourages individuality.		2 (6,7%)	8 (26,7%)	17 (56,7%)	3 (10%)	3,70 (74%)
8	In our business unit, management encourages innovation.		1 (3,3%)	4 (13,3%)	20 (66,7%)	5 (16,7%)	3,97 (79,33%)
9	In our business unit, management encourages risk-taking.		4 (13,3%)	9 (30%)	14 (46,7%)	3 (10%)	3,53 (70,67%)
10	In our business unit, management encourages frugality.			4 (13,3%)	24 (80%)	2 (6,7%)	3,93 (78,67%)
	Mean		3 (10%)	7 (23,4%)	16 (53,3%)	4 (13,3%)	3,67 (73,40%)

Table 5.26 shows that the mean of business strategy for differentiation indicator is 3,67 or with percentage 73,40%. We can see that the mean of

respondents who answer Strongly Agree is 4, the mean of respondents who answer Agree is 16, 7 for Neither Agree Nor Disagree, 3 for Disagree, and only 1 respondent who answer for Strongly Disagree which the mean is close to 0 (zero). The highest mean for respondent answer in case of differentiation is 4,07 (item number 3) and the lowest mean is 3,30 (item number 6).

3. Organizational Structure

Organizational structure variable is divided into two: decentralization and centralization. The perception of each respondent for organizational structure in the company can be seen in the following tables:

Table 5.27
Frequency Distribution of Respondent for Organizational Structure Variable (Decentralization Indicator)

No	Item	Respondent Answer					Mean
		SD	D	NAND	A	SA	
1	A person who wants to make his own decisions here is quickly discouraged.		4 (13,3%)	8 (26,7%)	14 (46,7%)	4 (13,3%)	2,60 (52%)
2	We frequently participate in budget allocation.	1 (3,3%)	5 (16,7%)	10 (33,3%)	12 (40%)	2 (6,7%)	3,30 (66%)
3	We frequently participate in the development of new products.		2 (6,7%)	11 (36,7%)	14 (46,7%)	3 (10%)	3,60 (72%)
4	We frequently participate in major investment decision.	2 (6,7%	6 (20%)	14 (46,7%)	7 (23,3%)	1 (3,3%)	2,97 (59,33%)
5	We frequently participate in pricing decisions.		4 (13,3%)	10 (33,3%)	15 (50%)	1 (3,3%)	3,43 (68,67%)
6	We frequently participate in the hiring and firing of managerial personnel.	1 (3,3%)	6 (20%)	12 (40%)	8 (26,7%)	3 (10%)	3,20 (64%)
7	We frequently participate in the decisions on promotions within the staff.		5 (16,7%)	12 (40%)	10 (33,3%)	3 (10%)	3,37 (67,33%)

Table 5.27
Frequency Distribution of Respondent for Organizational Structure Variable (Decentralization Indicator)

8	We frequently participate in decisions on the adoption of new project (e.g., product).			6 (20%)	14 (46,7%)	10 (33,3%)	3,13 (62,67%)
9	We frequently participate in the decisions on the adoption of new project policies.			6 (20%)	14 (46,7%)	10 (33,3%)	3,13 (62,67%)
10	We frequently participate in the decisions to hire new project staff.			7 (23,3%)	14 (46,7%)	9 (30%)	3,07 (61,33%)
11	We frequently participate in decisions to increase the level of expenditure for advertising and promotion.		1 (3,3%)	5 (16,7%)	16 (53,3%)	8 (26,7%)	3,03 (63,60%)
12	We frequently participate in decisions to increase the level of expenditure or research and development.		1 (3,3%)	4 (13,3%)	12 (40%)	13 (43,3%)	3,23 (64,76%)
13	We frequently participate in decisions to increase the number of employees in a business-unit.		5 (16,7%)	16 (53,3%)	8 (26,7%)	1 (3,3%)	3,17 (64,64%)
	Mean	1 (3,3%)	3 (10%)	9 (30%)	12 (40%)	5 (16,7%)	3,17 (63,77%)

Table 5.27 shows that the mean of organizational structure for decentralization indicator is 3,17 or with percentage 63,77%. We can see that the mean of respondents who answer Strongly Agree is 5, the mean of respondents who answer Agree is 12, 9 for Neither Agree Nor Disagree, 3 for Disagree, and 1 for respondent who answer for Strongly Disagree. The highest mean for respondent answer in case of differentiation is 2,60 (item number 3) and the lowest mean is 3,30 (item number 1).

Table 5.28
Frequency Distribution of Respondent for Organizational Structure Variable (Centralization Indicator)

No	Item	Respondent Answer					Mean
		SD	D	NAND	A	SA	
1	We frequently participate in decisions to change the selling price on a major product or product line.	1 (3,3%)	7 (23,3%)	12 (40%)	9 (30%)	1 (3,3%)	3,07 (61,33%)
2	We usually participate in the decision to hire new staff.		6 (20%)	16 (53,3%)	7 (23,3%)	1 (3,3%)	3,10 (62,00%)
3	Any decision I make has to have my boss approval first.	2 (6,7%)	8 (26,7%)	4 (13,3%)	13 (43,3%)	3 (10%)	3,23 (64,67%)
4	I have to ask my boss before I do almost anything.	3 (10%)	7 (23,3%)	5 (16,7%)	13 (43,3%)	2 (6,7%)	3,13 (62,67%)
5	The attainment of market share targets set for my business unit is decided by my boss.	2 (6,7%)	4 (13,3%)	7 (23,3%)	16 (53,3%)	1 (3,3%)	3,33 (66,67%)
6	The attainment of the expenses targets set for my business unit is decided by my boss.	2 (6,7%)	2 (6,7%)	9 (30%)	16 (53,3%)	1 (3,3%)	3,40 (68,00%)
7	The attainment of sales targets set for my business unit is decided by my boss.	2 (6,7%)	3 (10%)	10 (33,3%)	14 (46,7%)	1 (3,3%)	3,30 (66,00%)
8	The monitoring of actions taken to achieve these targets on an ongoing basis is decided by my boss.	2 (6,7%)	3 (10%)	5 (16,7%)	17 (56,7%)	3 (10%)	3,53 (70,67%)
9	The monitoring of decisions taken to achieve these targets on an ongoing basis is decided by my boss.	1 (3,3%)	6 (20%)	6 (20%)	14 (46,7%)	3 (10%)	3,40 (68,00%)
10	There can be little action taken here until a supervisor approves a decision.		2 (6,7%)	5 (16,7%)	12 (40%)	11 (36,7%)	3,07 (61,33%)
	Mean	1 (3,3%)	5 (16,7%)	8 (26,7%)	13 (43,3%)	3 (10%)	3,26 (65,13%)

Table 5.28 shows that the mean of organizational structure for centralization indicator is 3,26 or with percentage 65,13%. We can see that the mean of respondents who answer Strongly Agree is 3, the mean of respondents who answer Agree is 13, 8 for Neither Agree Nor Disagree, 5 for Disagree, and 1 for respondent who answer for Strongly Disagree. The highest mean for respondent answer in case of differentiation is 3,53 (item number 8) and the lowest mean is 3,07 (item number 1 and 10).

V.1.6 Hypothesis Testing

The hypothesis testing in this research is done by using ANOVA. ANOVA (Analysis of Variance) is a method to test the relationship between one dependent variable (metric scale) with one or more independent variable(s) (with nonmetric scale or categorical with more than two categories). ANOVA is used to find out the main effect and interaction effect from categorical independent variable (factor) toward metric dependent variable. ANOVA also can be described as a method to compare means between groups.

In this research, ANOVA is used to explore fit between low-cost strategy, centralized structure, and the AIS characteristics of scope, timeline, aggregated, and integration; fit between low-cost strategy, decentralized structure, and the AIS characteristics of scope, timeline, aggregated, and integration; fit between differentiation strategy, centralized structure, and the AIS characteristics of scope, timeline, aggregated, and integration; and fit between differentiation strategy, decentralized structure, and the AIS characteristics of scope, timeline, aggregated, and integration.

V.1.6.1 Test of Normality

Test of normality in this research is done by using one sample test kolmogorov smirnov. One sample kolmogorov-smirnov is usually used to test null hypothesis of sample toward a certain distribution. The data is in normal distribution if the significance is above 0,05 (Ghozali, 2005). The hypotheses for this test normality are:

H0: Population data is in normal distribution

H1: Population data is not in normal distribution

If,

If pvalue > α (0,05) therefore H0 is accepted

If pvalue < α (0,05) therefore H0 is rejected

The result of test of normality can be seen in the following table:

Table 5.29
Result of Test of Normality *One Sample Kolmogorow Smirnov test*

Variable	Indicator	Kolmogorov Smirnov	Significance	Explanation
AIS Characteristics	Scope	0,782	0,573	Normal
	Timelines	0,771	0,591	Normal
	Aggregation	0,686	0,734	Normal
	Integration	0,718	0,681	Normal
Business Strategy	Low-cost	1,144	0,146	Normal
	Differentiation	0,887	0,410	Normal
Organizational Structure	Decentralization	0,933	0,348	Normal
	Centralization	1,086	0,189	Normal

Table 5.29 shows that residual value for each variable has significance value > 0,05. It means all variables has normal distribution and we can go on to the next hypothesis testing.

V.1.6.1 Test of ANOVA

1. **Fit between low-cost strategy, centralized structure, and the AIS characteristics of narrow scope, periodically timeliness, low aggregated, and low integrated**

The output of analysis results are as followed:

a. Test of Homogeneity

Table 5.30
The Result of Homogeneity Test (a)

Test of Homogeneity of Variances

AIS

Levene Statistic	df1	df2	Sig.
16,160	2	87	,000

Before we go the next analysis, we have to do test of homogeneity to find out whether the research data come from the same variance.

Based on the test, we got 16,160 levene statistics value with 0,000 significance (< 0,05), it means the research data come from different variance. Although the assumption is broken, it does not give

fatal effect to ANOVA and the analysis can be continued because the groups have the same sample size (proportionally).

b. Test of ANOVA

Tabel 5.31
The Result of Test of ANOVA (Hypothesis 1)

ANOVA

AIS

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	51217,356	2	25608,678	387,828	,000
Within Groups	5744,700	87	66,031		
Total	56962,056	89			

Based on table 5.31 we can see that Ftest is 387,828 with 0,000 significance (< 0,05). If we compare to the Ftable at degree of freedom (df) = n-k-1 = 90-2-1 = 87, where n= total sample and k= total of independent variables, Ftable value in 0,05 significance is 3,1013. Thus Ftest > Ftable (387,828 > 3,1013) and significance value is 0,000 (significance < 0,05). Therefore we can conclude that there is fit between low-cost strategy, centralized structure, and AIS characteristics in case of narrow scope, periodically timeliness, low aggregated, and low integrated. Thereby Ha1 is accepted and H01 is rejected.

c. Multiple Comparison

Table 5.32
Result of Multiple Comparisons (Hypothesis 1)

Multiple Comparisons

Dependent Variable AIS isi
Tukey HSD

(I) Faktor	(J) Faktor	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
Low-cost strategy	Centralized structure	-9,83333*	2,09811	,000	-14,8362	-4,8304
	AIS characteristics	-54,80000*	2,09811	,000	-59,8029	-49,7971
Centralized structure	Low-cost strategy	9,83333*	2,09811	,000	4,8304	14,8362
	AIS characteristics	-44,96667*	2,09811	,000	-49,9696	-39,9638
AIS characteristics	Low-cost strategy	54,80000*	2,09811	,000	49,7971	59,8029
	Centralized structure	44,96667*	2,09811	,000	39,9638	49,9696

*. The mean difference is significant at the .05 level.

Tukey post hoc test for multiple comparisons indicates that the three groups (low-cost strategy, centralized structure, and AIS characteristics) have sig. value which is significant ($p < 0,05$) statistically. This result indicates that there is fit between low-cost strategy, centralized structure, and AIS characteristics in case of narrow scope, periodically timeliness, low aggregated, and low integrated significant statistically and there is no mean differences among these three groups statistically. Based on multiple comparisons for first group we can conclude that low-cost is appropriate with centralized structure, and AIS characteristics in case of narrow scope, periodically timeliness, low aggregated, and low integrated. Thereby Ha1 is accepted and H01 is rejected.

2. **Fit between low-cost strategy, decentralized structure, and the AIS characteristics of narrow scope, periodically timeliness, low aggregated, and low integrated**

The output of analysis results are as followed:

a. Test of Homogeneity

Table 5.33
Result of Test of Homogeneity (b)

Test of Homogeneity of Variances

AIS

Levene Statistic	df1	df2	Sig.
15,346	2	87	,000

Based on the test, we got 15,346 levene statistics value with 0,000 significance (< 0,05), it means the research data come from different variance. Although the assumption is broken, it does not give fatal effect to ANOVA and the analysis can be continued because the groups have the same sample size (proportionally).

b. Test of ANOVA

Table 5.34
Result of Test of ANOVA (Hypothesis 2)

ANOVA

AIS

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	46629,800	2	23314,900	342,363	,000
Within Groups	5924,700	87	68,100		
Total	52554,500	89			

Based on table 5.34 we can see that Ftest is 342,363 with 0,000 significance (< 0,05). If we compare to the Ftable at degree of freedom (df) = n-k-1 = 90-2-1 = 87, where n= total sample and k= total of independent variables, Ftable value in 0,05 significance is 3,1013. Thus Ftest > Ftable (342,363 > 3,1013) and significance value is 0,000 (significance < 0,05). Therefore we can conclude that there is fit between low-cost strategy, decentralized structure, and AIS characteristics in case of narrow scope, periodically timeliness, low aggregated, and low integrated.

c. Multiple Comparison

Table 5.35
Result of Multiple Comparisons (Hypothesis 2)

Multiple Comparisons

Dependent Variable: SAIS
Tukey HSD

(I) Faktor	(J) Faktor	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
Low-cost strategy	Decentralized structure	-18,50000*	2,13073	,000	-23,5807	-13,4193
	AIS characteristics	-54,80000*	2,13073	,000	-59,8807	-49,7193
Decentralized structure	Low-cost strategy	18,50000*	2,13073	,000	13,4193	23,5807
	AIS characteristics	-36,30000*	2,13073	,000	-41,3807	-31,2193
AIS characteristics	Low-cost strategy	54,80000*	2,13073	,000	49,7193	59,8807
	Decentralized structure	36,30000*	2,13073	,000	31,2193	41,3807

*. The mean difference is significant at the .05 level.

Tukey post hoc test for multiple comparisons indicates that the three groups (low-cost strategy, decentralized structure, and AIS characteristics) have sig. value which is significant (p < 0,05) statistically. This result indicates that there is fit between low-cost strategy, decentralized structure, and AIS characteristics in case of

narrow scope, periodically timeliness, low aggregated, and low integrated significant statistically and there is no mean differences among these three groups statistically. Based on multiple comparisons we can conclude that low-cost is appropriate with decentralized structure, and AIS characteristics in case of narrow scope, periodically timeliness, low aggregated, and low integrated. Thereby Ha2 is rejected and H02 is accepted.

3. **Fit between differentiation strategy, centralized structure, and the AIS characteristics of broad scope, real-time timeliness, high aggregated, and high integrated**

The output of analysis results are as followed:

a. **Test of Homogeneity**

Table 5.36
Result of Test of Homogeneity (c)

Test of Homogeneity of Variances

AIS

Levene Statistic	df1	df2	Sig.
13,102	2	87	,000

Based on the test, we got 13,102 levene statistics value with 0,000 significance (< 0,05), it means the research data come from different variance. Although the assumption is broken, it does not give fatal effect to ANOVA and the analysis can be continued because the groups have the same sample size (proportionally).

b. Test of ANOVA

Table 5.37
Result of Test of ANOVA (Hypothesis 3)

ANOVA

AIS

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	37064,467	2	18532,233	269,565	,000
Within Groups	5981,133	87	68,749		
Total	43045,600	89			

Based on table 5.37 we can see that Ftest is 269,565 with 0,000 significance (< 0,05). If we compare to the Ftable at degree of freedom (df) = n-k-1 = 90-2-1 = 87, where n= total sample and k= total of independent variables, Ftable value in 0,05 significance is 3,1013. Thus Ftest > Ftable (269.565 > 3,1013) and significance value is 0,000 (significance < 0,05). Therefore we can conclude that there is fit between differentiation strategy, centralized structure, and AIS characteristics in case of broad scope, real-time timeliness, high aggregated, and high integrated.

c. Multiple Comparison

Table 5.38
Result of Multiple Comparisons (Hypothesis 3)

Multiple Comparisons

Dependent Variable: AIS
Tukey HSD

(I) Faktor	(J) Faktor	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
Differentiation Strategy	Centralized Structure	-4,13333	2,14095	,138	-9,2781	1,0115
	AIS Characteristics	-40,93333*	2,14095	,000	-46,0781	-35,7885
Centralized Structure	Differentiation Strategy	4,13333	2,14095	,138	-1,0115	9,2781
	AIS Characteristics	-36,80000*	2,14095	,000	-41,9448	-31,6552
AIS Characteristics	Differentiation Strategy	40,93333*	2,14095	,000	35,7885	46,0781
	Centralized Structure	36,80000*	2,14095	,000	31,6552	41,9448

*. The mean difference is significant at the .05 level.

Tukey post hoc test for multiple comparisons indicates that only group 3 has sig. value which is significant ($p < 0,05$) statistically. While group 1 and 2 do not have sig. value which is significance statistically ($p > 0,05$). This result indicates that there is no fit between differentiation strategy and centralized structure where the value of mean difference is not significantly different. Based on multiple comparisons we can conclude that differentiation is not appropriate with centralized structure, and AIS characteristics in case of broad scope, real-time timeliness, high aggregated, and high integrated. Thereby Ha3 is accepted and H03 is rejected.

4. Fit between differentiation strategy, decentralized structure, and the AIS characteristics of scope, timeline, aggregated, and integration

The output of analysis results are as followed:

a. Test of Homogeneity

Table 5.39
Result of Test of Homogeneity (d)

Test of Homogeneity of Variances

AIS

Levene Statistic	df1	df2	Sig.
12,289	2	87	,000

Based on the test, we got 12,289 levene statistics value with 0,000 significance (< 0,05), it means the research data come from different variance. Although the assumption is broken, it does not give fatal effect to ANOVA and the analysis can be continued because the groups have the same sample size (proportionally).

b. Test of ANOVA

Table 5.40
Result of Test of ANOVA (Hypothesis 4)

ANOVA

AIS

	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	30056,022	2	15028,011	212,207	,000
Within Groups	6161,133	87	70,818		
Total	36217,156	89			

Based on table 5.40 we can see that Ftest is 212.207 with 0,000 significance (< 0,05). If we compare to the Ftable at degree of freedom (df) = n-k-1 = 90-2-1 = 87, where n= total sample and k= total of independent variables, Ftable value in 0,05 significance is 3,1013. Thus Ftest > Ftable (212.207 > 3,1013) and significance value is 0,000 (significance < 0,05). Therefore we can conclude that there is fit between differentiation strategy, decentralized structure, and AIS characteristics in case of broad scope, real-time timeliness, high aggregated, and high integrated.

c. Multiple Comparison

Table 5.41
Result of Multiple Comparisons (Hypothesis 4)

Multiple Comparisons

Dependent Variable: AIS
Tukey HSD

(I) Faktor	(J) Faktor	Mean Difference (I-J)	Std. Error	Sig.	95% Confidence Interval	
					Lower Bound	Upper Bound
Differentiation Strategy	Decentralized Structure	-4,53333	2,17283	,099	-9,7144	,6477
	AIS characteristics	-40,83333*	2,17283	,000	-46,0144	-35,6523
Decentralized structure	Differentiation strategy	4,53333	2,17283	,099	-,6477	9,7144
	AIS characteristics	-36,30000*	2,17283	,000	-41,4811	-31,1189
AIS charateristics	Differentiation strategy	40,83333*	2,17283	,000	35,6523	46,0144
	Decentralized structure	36,30000*	2,17283	,000	31,1189	41,4811

*. The mean difference is significant at the .05 level.

Tukey post hoc test for multiple comparisons indicates that only group 3 has sig. value which is significant ($p < 0,05$) statistically. While group 1 and 2 do not have sig. value which is significance statistically ($p > 0,05$). This result indicates that there is no fit between differentiation strategy and decentralized structure where the value of mean difference is not significantly different. Based on multiple comparisons we can conclude that differentiation is not appropriate with decentralized structure, and AIS characteristics in case of broad scope, real-time timeliness, high aggregated, and high integrated. Thereby Ha4 is rejected and H04 is accepted.

Table 5.42

Summary of Hypothesis Testing

No	Hypothesis	Result
H1	Low-cost strategy is appropriate with centralized structure and the AIS characteristics of narrow scope, periodically timeliness, low aggregated, and low integrated information.	Accepted
H2	Low-cost strategy with the AIS characteristics of narrow scope, periodically timeliness, low aggregated, and low integrated information is not appropriate with decentralized structure.	Rejected
H3	Differentiation strategy with the AIS characteristics of broad scope, real-time timeliness, high aggregated, and high integrated information is not appropriate with centralized structure.	Accepted
H4	Differentiation strategy is appropriate with decentralized structure and the AIS characteristics of broad scope, real-time timeliness, high aggregated, and high integrated information.	Rejected

V.2 Result Interpretation

Analysis result in this research shows that there are 2 hypotheses accepted and 2 hypothesis rejected. The following discussion is aimed to explain about the result of hypothesis testing theoretically.

V.2.1 Hypothesis 1

Analysis result for first hypothesis shows that low-cost strategy is appropriate with centralized structure and AIS characteristics of narrow scope, periodically-timeliness, low aggregation, and low integration. It is appropriate with hypothesis 1. It is also consistent with Govindarajan and Gupta (1985) theory which said that low-cost strategy will benefit more from using centralized structure and Chenhall and Langfield-Smith theory which said that low-cost will benefit more from using accounting system that will assist company to control cost. In other words Jermias and Lindawati (2004) said that low-cost tend to use a more centralized structure by creating highly specialized work roles, formalized job description, and standardized operating procedures.

This result also consistent with research result by Gul and Chia (1994), where low-cost with its low uncertainty is appropriate with centralization, narrow scope, and low aggregation. They argued that it is because when low –cost with its low uncertainty is operating with high decentralization, high level of broad scope, and aggregated information, it will cause a lower managerial performance. While the finding for timeliness and integration is different with Soobaroyen and Poorundersing (2008) where they found that there was no significant relationship between uncertainty (low-cost) and timeliness and integration. But if it linked to the degree of decentralization, the finding is similar.

The acceptance of hypothesis 1 can be explained by analysis result. Tukey post hoc test for multiple comparisons shows that low-cost and centralized structure has statistically significant mean difference (p = 0,000) with level

significance 0,05. It is also happened with the fit between low-cost and AIS characteristics, and centralized organizational structure with AIS characteristics which are also have mean difference that are statistically significant (p = 0,000). This analysis result help writer to accept the hypothesis 1.

V.2.2 Hypothesis 2

Hypothesis 2 of this research which said low-cost strategy with the AIS characteristics of narrow scope, periodically timeliness, low aggregated, and low integrated information is not appropriate with decentralized structure is rejected because it is not according to the result analysis. The result analysis shows that the three groups of AIS characteristics, low-cost strategy, and decentralization have significant value < 0,05 (p = 0,000) where it indicates that the mean difference between the three groups are statistically significant. It means that low-cost strategy with the AIS characteristics of narrow scope, periodically timeliness, low aggregated, and low integrated information is appropriate with decentralized structure. There is no significant difference for low-cost in implementing decentralized structure or centralized structure. It is also appropriate with bivariate analysis result by Govindarajan (1988) which did not provide support for the interaction between competitive advantage strategy and decentralization.

V.2.3 Hypothesis 3

Analysis result for third hypothesis shows that differentiation strategy is not appropriate with centralized structure. This analysis result for hypothesis 3 is consistent with the hypothesis where there is not statistically significant mean difference between differentiation strategy and centralized structure (p = 0,136). The p value is above 0,05 level significance. It is appropriate with Govindarajan (1988) theory which said that differentiation strategy is not appropriate with centralized structure because the hierarchy in centralized structure will make the information flow slowly. As we know that differentiation is relate to innovation and needs strong and rapid information in order to be unique among its competitors.

While the significance value shows that the group of differentiation strategy – AIS characteristics, and group of centralized structure – AIS characteristics have statistically significance mean difference (p = 0,000). It means that differentiation strategy is appropriate with AIS characteristics of broad scope, real-time timeliness, high aggregated, and high integrated information, while it is not appropriate with centralized structure. It is relevant with our previous discussion, where differentiation strategy needs to be broader in scope, to be updated more frequently, to be more aggregated to allow managers to process large volumes of data, as well as provide more integrated information for better co-ordination across departments (Bouwens and Abernethy, 2000).

V.2.4 Hypothesis 4

Analysis result for hypothesis 4 based on Tukey post hoc multiple comparisons shows that differentiation strategy is not appropriate with decentralized structure, because the mean difference between them is not statistically significant (p = 0.099), where the p value is above 0,05 level significance. It makes us to reject the hypothesis 4. Jermias and Lindawati (2004) felt difficult in interpreting the result for the statistical test of the fit between differentiation strategy and decentralized structure. Their result shows that although low-cost strategy use more decentralized structure, the difference is not statistically significant. While the p value of mean difference between AIS characteristics and differentiation strategy indicates statistically significance mean difference (p = 0,000). It is also appropriate with the previous discussion of hypothesis 3, where differentiation strategy needs to be broader in scope, to be updated more frequently, to be more aggregated to allow managers to process large volumes of data, as well as provide more integrated information for better co-ordination across departments.

V.3 Discussion

The objective of this research is to explore the fit between AIS characteristics (scope, timeliness, aggregation, integration), business strategy (low-cost, differentiation), and organizational structure (decentralization,

centralization). Based on analysis we have found that there is fit between low-cost, centralized structure, and AIS characteristics of narrow scope, periodically timeliness, low aggregation, and low integration. As we expected in hypothesis 1, there is significant fit between them.

As we discussed in the previous chapter, low-cost needs narrow scope because low-cost is pointing on process efficiency to gain lower cost in producing product. Beside that low-cost also need periodically timeliness because low-cost do not really need strong information. And low aggregation is more appropriate with low-cost because high aggregation will cause too much information and overloaded. And remembering that low-cost is more appropriate with centralized, so low-cost also needs low integration information.

The finding of research analysis for hypothesis 2 is not consistent with our hypothesis. Actually we expect that low-cost strategy with AIS characteristics of narrow scope, periodically timeliness, low aggregation, and low integration is not appropriates with decentralized structure. But the analysis result makes us to reject the hypothesis because it indicates that there is fit between them. We assume that there is no significant difference for low-cost in implementing decentralized structure or centralized structure. In accordance to Govindarajan 1988) analysis result, where the degree of decentralization-strategy fit has no implications for performance.

Our finding also indicates that there is no fit between differentiation strategy with the AIS characteristics of broad scope, real-time timeliness, high aggregated, and high integrated information with centralized structure. It is

consistent with our hypothesis which said that differentiation strategy with the AIS characteristics of broad scope, real-time timeliness, high aggregated, and high integrated information is not appropriate with centralized structure. But the finding also indicates that there is no fit between differentiation and decentralized structure. It makes us to reject the hypothesis 4 also. It is related to previous discussion about research finding by Govindarajan (1988), that the degree of decentralization-strategy fit has no implications for performance. It is also related to the finding of Jermias and Lindawati (2004). They expect that product differentiation units will tend to use decentralization as compared to low cost units, while the research results show the opposite.

The result of this research can be the additional insight for the fit study between AIS characteristics, business strategy and organizational structure. The result concludes that the fit between AIS characteristics – business strategy, and fit between AIS characteristics – organizational structure can be defined, while the fit between organizational structure – business strategy did not show the expected result. We argue that when defining the fit between organizational structure – business strategy, we have to take into account other factors that, for example behavioral control (Jermias and Lindawati, 2004).

CHAPTER VI

CONCLUSION AND SUGGESTIONS

VI.1 Conclusion

Based on the analysis and discussion in the previous chapter, it takes the conclusions that will be explained below:

1. Low-cost is appropriate with centralized structure, and AIS characteristics in case of narrow scope, periodically timeliness, low aggregated, and low integrated. (Ha1 is accepted)

2. Low-cost is appropriate with decentralized structure, and AIS characteristics in case of narrow scope, periodically timeliness, low aggregated, and low integrated. (Ha2 is rejected)

3. Differentiation is not appropriate with centralized structure, and AIS characteristics in case of broad scope, real-time timeliness, high aggregated, and high integrated. (Ha3 is accepted)

4. Differentiation is not appropriate with decentralized structure, and AIS characteristics in case of broad scope, real-time timeliness, high aggregated, and high integrated. (Ha4 is rejected)

VI.2 Limitation of the Research

In doing this research, there are several limitations that the researchers face that might influence the findings. Some limitation appears in this research such as:

1. Sample that is used in this research to test the hypothesis is small; the larger sample will improve the statistics validity and generalization of result.

2. The data gathering method in this research is by using questionnaire that have limitation on not serious respondents answer which can not be controlled.

VI.3 Suggestions

Limitations that exist in this study should be a reference for subsequent research to get perfection in giving a picture and a wider contribution started from the same study. Some suggestions and recommendations that can give to further research the author, among others:

1. For further research is expected to take a larger sample with the results of a study to be more comprehensive and profound.
2. Suggested to the next researcher to combine the data gathering method by using questionnaire and interview so that the respondent can give the expected answer.
3. For further research is expected to give enough explanation and instruction to respondent before answering the questionnaire, so the respondent can really understand about questionnaire questions.

Romney, M.B and Steinbart, P.J. (2006). Acounting Information System, Sistem Informasi Akuntansi. 9th edition Penerbit Salemba Empat, Jakarta.

Sekaran, Uma. (2003). Research Method for Business: A Skill Building Approach. 4th edition. New York: John Wiley & Sons, Inc..

Soobaroyen, T. and Poorundersing, B. (2008). The Effectiveness of Management Accounting Systems. Managerial Auditing Journal, 23(2), 187-219.

Statistics of Sumatera Barat Province. Manufacturing Industry Directory in Sumatera Barat 2009. Padang

Venkatraman, N. (1989). The Concept of Fit in Strategy Research: Toward Verbal and Statistical Correspondence. Academy of Management Review, 14(3), 423-444.

Wilkinson, J.W., Cerullo, M.J., Raval, V., Won-On-Wing, B. (2000). Accounting Information Systems: Essential Concenpts and Applications. 4th edition. New York: John Wiley & Sons, Inc.